Determinants of CEO compensation in the hospitality industry

Yoonhwa Choi

University of Nevada, Las Vegas

Follow this and additional works at: https://digitalscholarship.unlv.edu/rtds

Repository Citation

Choi, Yoonhwa, "Determinants of CEO compensation in the hospitality industry" (2003). UNLV Retrospective Theses & Dissertations. 1585.

https://digitalscholarship.unlv.edu/rtds/1585

This Thesis is brought to you for free and open access by Digital Scholarship@UNLV. It has been accepted for inclusion in UNLV Retrospective Theses & Dissertations by an authorized administrator of Digital Scholarship@UNLV. For more information, please contact digitalscholarship@unlv.edu.
DETERMINANTS OF CEO COMPENSATION IN THE HOSPITALITY INDUSTRY

By

Yoonhwa Choi
Bachelor of Science
Korea University, Seoul, Korea
1994

A thesis submitted in partial fulfillment
of the requirements of the

Master of Hotel Administration Degree
William F. Harrah College of Hotel Administration

Graduate College
University of Nevada, Las Vegas
May 2002

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
The Thesis prepared by

Yoonhwa Choi

Entitled

Determinants of CEO compensation in the hospitality industry.

is approved in partial fulfillment of the requirements for the degree of

Master of Science in Hotel Administration

Examination Committee Chair

Dean of the Graduate College

Examination Committee Member

Graduate College Faculty Representative
ABSTRACT

Determinants of CEO Compensation in the Hospitality Industry

by

Yoonhwa Choi

Dr. Zheng Gu, Examination Committee Chair
Associate Professor of Hotel Administration
University of Nevada, Las Vegas

The issue of top management compensation has received widespread attention from public concerns, stockholders, and regulating agencies for many years. Research on top management compensation has taken place for more than 70 years. Recent popular literature has criticized the compensation awarded to the Chief Executive Officers (CEOs) of large companies, claiming that pay is excessive and is not adequately linked to firm performance. Hospitality industry is not an exception for such criticism. However, little research on hospitality CEO compensation itself has been done.

This study empirically investigated whether CEO pay is linked to company performance within the hospitality industry, and attempted to further identify determinants of executive compensation among selected variables used in this study for the hotel, casino, and restaurant sectors. Thus, the present study adds to the body of
knowledge on executive compensation for the hospitality industry by newly identifying sector-specific variables.

The data was gathered for the years 1995-2000 for 22 hotels (SIC 7011), 25 casinos (SIC 7990), and 61 restaurants (SIC 5812) respectively. The final samples of the restaurant, hotel and casino sectors consisted of 53, 77, and 188 observations respectively.

This study found that the results of regression analysis at least partially support agency theory in the hotel, casino and restaurant sectors by demonstrating that some variables of firm performance are highly correlated with CEO compensation with the high-adjusted R Square of .756, .727, and .697 respectively. The study's findings also suggest that: (1) there is a strong relationship between firm size and CEO compensation; (2) CEO compensation in the hotel and restaurant sectors demonstrates its high sensitivity to a firm's leverage condition; (3) hotel CEOs with high cash compensation are more likely sales revenue than profit-oriented; (4) there is an indication of agency problem in the hotel sector by illustrating that hotel firms pay high compensation despite poor market performance of their stocks.
# TABLE OF CONTENTS

ASTRACT .............................................................................................................................iii

LIST OF TABLES ...............................................................................................................vii

ACKNOWLEDGMENT .......................................................................................................viii

CHAPTER 1  INTRODUCTION .......................................................................................1
  Background of the Study ............................................................................................1
  Purpose of the Study ..................................................................................................3
  Contribution of the Study ...........................................................................................3
  Limitations of the Study .............................................................................................4
  Definition of Terms ....................................................................................................6
  Organization of the Study ..........................................................................................8

CHAPTER 2  REVIEW OF LITERATURE ......................................................................9
  Introduction ................................................................................................................9
  Types of Compensation .............................................................................................9
  Agency Theory ...........................................................................................................10
  Firm Size and Executive Compensation ..................................................................12
  Compensation/Firm Performance Relationship and Financial Ratios .....................13
  Executive Compensation in the Hospitality Industry ...............................................17

CHAPTER 3  DATA AND METHODOLOGY ...............................................................24
  Introduction ..............................................................................................................24
  Data Sources and Sampling Procedures ..................................................................24
  Variables ....................................................................................................................27
  Model ........................................................................................................................34
  Statistical Methodology and Hypothesis Testing .......................................................37

CHAPTER 4  RESULTS AND FINDINGS .....................................................................39
  Introduction ..............................................................................................................39
  Description of Sample ..............................................................................................40
  Hypotheses Testing ...................................................................................................45

CHAPTER 5  SUMMARY AND CONCLUSIONS .........................................................59
  Summary ....................................................................................................................59
LIST OF TABLES

Table 1  Financial Ratios Used in Previous Studies......................... 17
Table 2  Descriptive Statistics for CEO Cash Compensation of Hotel...... 40
Table 3  Descriptive Statistics for CEO Cash Compensation of Casino...... 41
Table 4  Descriptive Statistics for CEO Cash Compensation of Restaurant.. 41
Table 5  Descriptive Statistics for Variables of Hotel.......................... 42
Table 6  Descriptive Statistics for Variables of Casino.......................... 43
Table 7  Descriptive Statistics for Variables of Restaurant...................... 44
Table 8  Regression Summary for Hotel............................................. 46
Table 9  Regression Summary for Casino............................................. 51
Table 10 Regression Summary for Restaurant...................................... 55
Table 11 Summary of Variables Found in the Model.............................. 58
ACKNOWLEDGEMENTS

I wish to acknowledge the contributions of persons from both my personal and professional life that made this study possible. In particular, I would like to thank my committee chair, Dr. Zheng Gu, for his guidance, suggestions, and patience given to me throughout the lengthy thesis process. I also thank him for teaching me the course of Financial Management in the Hospitality Industry, and the course of Operational Analysis in the Hospitality Industry.

Also, I would like to extend my gratitude to my committee members, Dr. Shannon Bybee, Dr. Michael Dalbor, and Dr. Michael Sullivan. To Dr. Shannon Bybee, I would like to thank him for his encouragement and kindness. To Dr. Michael Dalbor, I would like to express my gratitude for his constructive criticism. To Dr. Michael Sullivan, member of the committee and representative of the Graduate College, I would like to express my gratitude for his worthy comments and review. I also thank him for his kindness.

Finally, I wish to acknowledge my parents and my husband. Without their love, support, and encouragement, this study would not have been accomplished.
CHAPTER 1

INTRODUCTION

Background of the Study

Is CEO compensation linked to firm performance? The issue of top management compensation is of key interest, not only to academic researchers, but also individuals and entities including (for example) stockholders and regulating agencies, such as those responsible for implementing new tax laws.

Pioneering work by Jensen and Meckling (1976) suggests corporations should provide compensation packages to attract and retain management talent, while simultaneously balancing such compensation with expected increases in shareholder wealth resulting from management performance. As long as executive pay is determined by performance that increases shareholders' wealth, shareholders should justify high executive pay.

Raffio (1997) reports that the industry's 100 highest paid leaders averaged an impressive 60% increase in total compensation (cash and long-term rewards) of $1.5 million. In contrast, economists say most average workers wrangled no more than a 3-5% pay hike during 1996, with foodservice at the low end of that range, hourly wages creeping up an average of only 3.2%. Unit managers received salaries typically in the $27000-$35000 range.
Initially, corporations had been allowed to voluntarily disclose their own respective (direct and indirect) forms of executive compensation. Publicly held companies are now required, however, to file proxy statements with the Securities Exchange Commission (SEC) in order to officially address the issue of alleged excessive CEO compensation. These disclosures serve to give a potential investor enough information about a company to determine what their making an investment in the company is worthwhile (Romanchek, 1999). As a result of public outcry over CEO compensation, congress took a significant step towards reforming executive pay in 1993. The government implemented a new tax law, 162(m) stating that any cash paid to an executive in excess of $1 million is non-tax deductible unless the salaries or bonuses are based on clearly articulated performance goals (Romanchek, 1999; Dennis-Escoffier, 2001).

Some studies suggest, however, that CEO compensation is not always tied to a firm’s performance. CEOs are paid well not only when their work yields positive results, but indeed, even when they fail to achieve good results (Behr, 1997).

The principal-agent model of executive compensation suggests that by connecting pay to performance, shareholders ensure corporate managers attempt to maximize shareholder wealth (Jensen & Meckling 1976). There are times, however, when respective interests of shareholders and managers are incongruent, thus creating agency costs for shareholders. Past research has attempted to determine the optimal contract for both principal and agent, and has focused, to that end, on contractual relations between owners and managers (Beatty & Zajac 1994; Eisenhardt 1989; Harris & Raviv 1979; Shavell 1979).
Purpose of the Study

One key objective of this study is to investigate whether CEO pay is linked to company performance within the hospitality industry. This questionable link between pay and performance is directly addressed by examining the relationship between firm performance and CEO cash compensation. Another objective of the study is to examine determinants of executive compensation among selected variables used in this study for the hotel, casino, and restaurant sectors.

The issue of judging one accounting measure equally important across all firms regardless of industry has already been identified as a weakness of previous studies (Duru & Iyengar, 1999; Lobingier, 2000). This study, then, focuses on sector-specific determinants across three sectors of the hospitality industry: hotel, casino, and restaurant. Therefore, the issue is avoided by expanding variables with diverse aspects that may be specifically related to CEO compensation across three separate sectors of the hospitality industry.

Contributions of the Study

Potential contributions of the study are:

1. Despite numerous studies of executive compensation conducted over the last 70 years, the review of literature in the area of executive compensation does not indicate that prior academic research has been done specifically for the hospitality industry. Therefore, this study will both provide empirical evidence and contribute to the body of research on the topic of executive compensation for the comprehensive hospitality industry.
2. This study will help boards of directors and compensation consultants to structure optimal CEO compensation contracts by providing sector specific-relevant compensation determinants for each sector examined.

3. This study compensates for weakness in previous studies using only one accounting measure across all firms, regardless of industry (Duru & Iyengar, 1999; Lobingier, 2000) by expanding the spectrum of variables of financial ratios. The present study also adds to the body of knowledge on executive compensation for the hospitality industry by newly identifying sector-specific variables.

4. This study expands the time frame to six years. By using multiple-year observations (Attaway, 2000; Lobingier, 2000; Joyce, 2001) of sample firms' relevant accounting data from 1995 to 2000, the current study is expected to provide a superior gauge of CEO performance, since multi-year observations are less sensitive to transitory occurrences than are single-year observations (Newman & Bannister, 1998; Mishra & Nielsen, 1999; Ueng, 2000).

Limitations of the Study

1. In this study, the sample is limited to publicly traded hotel, casino, and restaurant firms. Privately held companies are excluded due to lack of available financial data.

2. Executive compensation is limited to short-term pay, consisting of cash bonuses and salaries. This study does not use stock as a compensation component, since fifteen percent of the companies used in the sample failed to
file copies of employee stock plans as exhibits of the Form 10-K annual reports required by the SEC (Brown, 2000). Therefore, using stock compensation would interfere with this study's overall accuracy. Another reason for using cash compensation only is for easy comparability with previous studies of different industries. Most earlier studies (Agarwal, 1981; Lewellen & Huntsman, 1970; Aggarwal & Samwick, 1999; Attaway, 2000; Joyce, 2001) have also used cash compensation alone. This study does not investigate deferred forms of compensation, either, such as stock options and other long deferred compensation forms. Past studies (Lewellen & Huntsman, 1970) have determined cash compensation (salary plus bonus) an acceptable substitute for more comprehensive measures of compensation.

3. Executive compensation examined for this study is that of CEOs only.

4. A limitation associated with this study is the accuracy of the data because the study has to rely on available secondary data.

5. Results of the study cannot be generalized across industries since the study investigates only the hospitality industry.

6. CEO personal factors are not considered within this study. These include age, job tenure, stock ownership, and education.
Definition of Terms

1. **Regression Analysis**: Regression analysis is a statistical technique that can be used to develop a mathematical equation showing how variables are related.

2. **Dependent Variable**: Dependent variable also called consequent variable or criterion variable. It is the variable that is thought influenced by other variables.

3. **Independent Variable**: Independent variable is also called antecedent variable or predictor variable. It is the variable thought to influence other variables.

4. **The R square of the multiple correlation coefficient (R^2)**: R^2 is a Goodness-of-fit measure of a linear model, sometimes called the coefficient of determination. It is the proportion of variation in the dependent variable explained by the regression model. It ranges in value from 0 to 1. Small values indicate that the model does not fit the data well.

5. **The multiple correlation coefficient (R)**: R is a Pearson product-moment correlation coefficient between the criterion variable and the predicted score on the criterion variable.

6. **Deferred compensation**: This includes pension benefits, deferred pay, stock options, stock bonuses, IRAs, and profit sharing.

7. **Cash compensation**: This is defined as the sum of annual salary and bonus, all measured in thousands of dollars (Rajagopalan & Prescott, 1990)

8. **Backward Elimination**: This is variable selection procedure in which all variables are entered into the equation, and then sequentially removed. If it meets the criterion for elimination, it is removed. After the first variable is removed, the remaining variable within the equation having the smallest partial correlation is next considered.
procedure ends when there are no further variables in the equation that satisfy removal criteria.

9. **Lodging/Hotel industry**: A group of firms defined by SIC code 7011 as commercial establishments engaged in providing lodging for the general public.

10. **Casino industry**: A group of firms defined by SIC code 7990 as commercial establishments engaged in gaming.

11. **Restaurant industry**: A group of firms defined by SIC code 5812 as commercial establishments primarily engaged in retail sales of prepared food and drinks for on-premise or immediate consumption.

12. **Liquidity ratios**: Financial ratios used to indicate a firm’s ability to meet short-term financial obligations.

13. **Leverage ratios**: Financial ratios used to measure the extent to which a firm relies on borrowed funds.

14. **Profitability ratios**: Financial ratios used to reflect a firm’s ability to cover costs and provide returns to firm owners.

15. **Efficiency ratios**: Financial ratios used to measure productivity for a given level of input.

16. **Quick ratio (QR)**: This measures a firm’s liquidity, and may be obtained by dividing quick assets by current liabilities.

17. **Long term liabilities to total assets (LTD)**: This is a leverage ratio, computed by dividing long-term liabilities by total assets.

18. **Net profit margin (NPM)**: This is a profitability ratio obtainable by dividing net profit by net sales.
19. **Total asset turnover (ATT):** This is an efficiency ratio, computed by dividing net sales by the average of the current year's and the prior year's total assets.

20. **1 Year stock return (SR):** This is a one-year percentage change in stock returns.

21. **Return on assets (ROA):** This means income before extraordinary items available for common, divided by total assets.

22. **Return on investment (ROI):** This is income before extraordinary items available for common, divided by total invested capital.

23. **1 Year sales growth rate (SG):** This is one-year percentage change of total sales.

24. **EBITDA interest coverage (IC):** It is computed by dividing earnings before interest taxes, depreciation and amortization (EBITDA) by interests.

**Organization of the Study**

This study is designed to empirically investigate whether CEO pay is linked to company performance within the hospitality industry, and to attempt to further identify determinants of executive compensation among selected variables used in this study for the hotel, casino, and restaurant sectors. Chapter 1 discusses the background of the study, including its purpose, contributions, limitations, and provides a list of definition of terms. Chapter 2 reviews the literature on CEO compensation. Chapter 3 discusses data, variables, and research methodologies used in the study. Chapter 4 states findings of the empirical investigation and analyzes results. Chapter 5 discusses results and implications of the study, as well as providing suggestions for further research.
CHAPTER 2

LITERATURE REVIEW

Introduction

Tremendous studies on executive compensation have been conducted over the last 70 years. Chapter 2 will present extensive aspects of executive compensation that were researched across industries by previous studies, including types of executive compensation, agency theory, firm size as related to executive compensation, compensation/firm performance relationship, financial ratios used as proxies of firm performance, and executive compensation in the hospitality industry.

Types of Compensation

Short-term compensation

Short-term (or total cash) compensation is defined as the sum of the annual salary and bonus. Agarwal (1981) stated that the largest percentage of prior studies have defined executive compensation to include only direct cash payments; thus cash compensation has the advantage of providing comparability with other studies of executive compensation. Also, Lewellen & Huntsman (1970) indicated that using salary and bonus as a measure of executive compensation is an acceptable substitute for a more comprehensive measure. To normalize this variable and avoid biases caused by outliers,
some previous studies have used the natural logarithm of CEO salary plus bonuses (Attaway, 2000).

Long-term compensation

Long-term compensation includes a wide array of deferred compensation benefits, like stock options, IRAs, bonus deferrals, pensions, and profit sharing. (Gomez-Mejia, Tosi, & Hinkin, 1987). Stock options can be used to augment salaries with a call option, so that a CEO’s total compensation pattern is more like that of a shareholder. Miller & Scholes (1982) suggest stock options can be a more efficient form of compensation. Thus, CEO common stock is used to offset the incentive to manipulate annual earnings. However, valuation of long-term incentives is beset with a number of practical and methodological issues (Kerr & Bettis, 1987; Finkelstein & Hambrick, 1989).

Agency Theory

The relationship predicted to exist between firm performance and executive pay is rooted in agency theory. Agency theory has been a major theoretical framework for researching CEO compensation in numerous previous studies. Prior empirical research has generally focused on pay-performance sensitivity, under the assumption that an optimal CEO contract should closely link pay to performance, since CEO behavior is largely unobservable.

Baker, Jensen & Murphy (1988) discuss aspects of compensation using two distinct approaches to viewing compensation: (1) traditional economic theory, and (2) uneconomic theory. Typical explanations offered by psychologists, behaviorists, human resource consultants, and personnel executives are distinctly uneconomic, that is,
focusing on notions such as fairness, equity, morale, trust, social responsibility, and culture. Expectancy theory and determinants of organizational performance are examples of uneconomic theory components. The major theoretical framework for researching CEO pay derives from economics, however, and has been captured within the notion of agency theory. The challenge to economists is to either provide viable economic explanations for these practices or integrate alternative notions into the traditional economic model.

According to agency theory, an agency problem exists when an agent, such as a CEO, has established an agenda at odds with stockholder interests. Therefore, one way to avoid agency problems in the short-run is to reward executives based on financial returns to shareholders (Kerr & Bettis, 1989; Martocchio, 1998).

In terms of CEO compensation, the standard agency model (Holmstrom, 1979) implies that a CEO of stronger ability has a greater reservation level of utility due to favorable outside job opportunities and, thus, requires greater compensation. It is expected that (to the extent CEO ability associates with firm performance) CEO compensation will vary according to CEO performance.

Agency theory posits that a contract exists between agent (management) and principal (shareholder), and that actions by an agent may be best monitored through use of incentives that link goals of the agent to those of the principal. This theory also emphasizes the idea that managers are self-serving; therefore, formal mechanisms, i.e., monitoring and reward structures, serve to align incentives of top managers with interests of shareholders (Jensen & Meckling, 1976; Fama 1980; Jensen, 1983). The main
objective of boards of directors, then, should be to structure incentives so that an agent's goal of increased personal wealth is not reached at the expense of shareholder wealth.

Much of the conceptual literature based on an agency framework offers the argument that principals have two options for reducing agency costs arising from conflicts of interest and/or self-serving behaviors on the part of agents. The first is to purchase information about the agents' efforts; the second is to link incentives to agents' outcomes (i.e., performance).

Firm Size and Executive Compensation

Previous empirical studies generally find a strong relationship between firm size and executive pay. Two commonly used proxies for firm size are sales volume (Jensen & Murphy, 1988; Newman & Bannister, 1998) and firm's total assets (Baumol, 1959; Marris, 1963; Sridharan, 1996; Ueng, 2000).

Jensen and Murphy (1988) suggest that the compensation/sales elasticity for five years and for five industry groups has been remarkably stable across time and industries. Moreover, the correlation between size and compensation is very high.

Murphy (1988) shows that when holding the value of the firm constant, a firm whose sales grow by 10 percent will increase the salary and bonus of its CEO by between 2 and 3 percent. This finding suggests size/pay relation is causal, and therefore reflects more than a matching of CEOs to firms on the basis of their abilities. It also suggests CEOs can increase their pay by increasing firm size, even when an increase in size reduces a firm's market value.
Tosi et al. (1996) find that firm size accounts for 54 percent of variance in CEO pay. Sridharan (1996) suggests a positive relationship between CEO compensations and the book value of a firm's assets. Baumol (1959) and Marris (1963) find that managers are motivated to increase corporate power, control, and perks by maximizing a firm's size.

While most studies to date have examined only large companies, Ueng (2000) examines determinants of CEO pay for small as well as large firms. Evidence in this study suggests that CEO pay in large firms is mostly a function of CEO influence over the board of directors, as well as firm size and performance. Firm size is a primary factor in determining CEO pay within small firms.

Compensation/Firm Performance Relationship and Financial Ratios

Research on top management compensation over the past 70 years has yielded more than 300 studies (Gomez-Mejia and Wiseman, 1997). Among these, the most frequently researched topic has been the relationship between CEO compensation and firm performance. A positive relationship between CEO compensation and firm performance would be consistent with agency theory, the dominant paradigm in this stream of research (Barkema and Gomez-Mejia 1998). Studies examining the relationship between performance-based compensation components and improved firm performance that have been measured using accounting variables have produced conflicting results.

Some studies have shown that accounting-based compensation components motivate managers to make decisions that increase their own wealth, but that do not improve firm performance (Healy, 1985; Dechow & Sloan, 1991; Lambert & Larker, 1987). Other studies have shown a significant relationship between improvements in accounting

Regarding accounting measures of performance used in executive compensation literature, however, many scholars have pointed out a common weakness: most such studies have considered only one accounting measure of performance, and have viewed this measure as equally important across firms (Duru & Iyengar, 1999; Lobingier, 2000).

In the following section, empirical evidence from both strong and weak relationship studies is presented. Accounting measures of performance and other control measures are also described. Scholars typically use profitability, stock performance, or stockholders equity to measure company performance (Dyl, 1988; Tosi & Gomez-Mejia, 1994). Profitability is usually measured as EPS or ROA. Stock performance is usually measured by changes in stock prices. Stockholder’s equity (ROE) is often used as a measure of company performance. The annual return on assets (ROA) is used to measure the performance of each individual year within the sample.

Duru and Iyengar (1999) investigate the association between a broad spectrum of firm performance measures and CEO compensation components for the electric utility industry. They adopt market returns (SR); return on assets (ROA); earnings per share (EPS); operating cash flow per share and growth in sales (SG). Results of their study
suggest a positive association between changes in compensation and changes in firm performance.

Agrawal (1991) analyzed effects of pooled time-series cross-sectional regressions of growth in compensation on performance measures, and found cash compensation positively related to both shareholder return and sales growth. Joyce (2001) researched executive compensation and firm performance for a sample of publicly traded banks and savings and loans. Joyce used ROA and CEO individual related variables including tenure and stock ownership. Results of this study indicate a positive correlation between compensation and ROA and CEO individual related variables. Lobingier (2000) examined the relationship between first-time performance plan adoption and firm performance, measured over 20 years across 9 industry groups. As a general performance measure, ROE is applied to all 9 industries, and industry-specific measures used for each. Results indicate industry-specific measures provide more sensitive measurements of firm performance than do general performance measures.

Newman & Bannister (1998) examine corporate compensation structures by investigating how the ratio of CEO compensation to average non-CEO employee compensation varies across firms/industries. The ratio is found to vary with performance, firm size, and the industry itself. This study employs ROE and stock market return (SR) to measure firm performance, and uses the log of sales as a measure of size. Ueng (2000) examines impacts of CEO influence over boards of directors on CEO pay for large and small firms. Additionally, other determinants of CEO pay for large and small firms are examined using ROA, SG (growth rate in sales), and TA (LOGAST, the natural logarithm of a firm's total assets). Results suggest CEO influence
over boards of directors regarding CEO pay is the key factor within larger firms, and that firm size itself is the primary determinant within smaller ones.

Other researchers, using different sets of data, measurements of variables, statistical techniques, and model specifications have often found weak or even statistically insignificant relationships, however, between pay and performance (Jensen & Murphy, 1990). Hirschey & Pappas (1981), for instance, find a negative association between accounting income and CEO cash compensation. And Ciscel (1977) discovers a weak correlation between cash compensation and both sales and profits. Garen (1994) reinforces the idea of the insignificance of this relationship by noting that the overall explanatory power of the empirical model for pay-performance sensitivity is low.

More recently, in a factor analysis of executive compensation literature, Tosi, Werner, Katz & Gomez-Mejia (1998) found that less than 5 percent of CEO pay appeared to be explainable by performance factors.

The table below summarizes financial ratios used in previous studies on the relationship between CEO compensation and firm performance. These financial ratios served as the basis for the selection of ratios used in this study.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA (return of total assets)</td>
<td>Jensen and Murphy (1990), C. Joe Ueng (2000)</td>
</tr>
<tr>
<td>ROI (return of total investment)</td>
<td>Gomez-Mejia, Tosi, and Hinkin (1987)</td>
</tr>
<tr>
<td>EPS (earnings per share)</td>
<td>Gomez-Mejia, Tosi, and Hinkin (1987)</td>
</tr>
<tr>
<td>IT (inventory turnover)</td>
<td>Patricia G Lobingier (2000)</td>
</tr>
</tbody>
</table>

Executive Compensation in the Hospitality Industry

There has been criticism claiming excessive pay, unreasonable pay, and inordinate rising pay in relation to the issue of executive compensation across industries. Hospitality industry is not an exception for such criticism. However, it is said that the hospitality industry has long been labeled as one that pays its workers less than do other industries. Information regarding executive compensation packages also reveals that service industries provided the lowest average salary, short-term bonuses, and long-term bonuses among all the industries (Sturman, 2001). Recent study conducted by Sturman (2001) proves that overall pay is lower in the hospitality industry than in other industries. The result of his study demonstrates that the hospitality industry paid about the same as other industries for low-complexity jobs, but hospitality paid about 85 percent of what other
industries paid for moderate-complexity jobs and 78 percent for high-complexity jobs including top executives.

Unlike in other industries, the academic research on the top executive compensation has not been conducted in the hospitality industry. However, there have been some non-scholastic literatures on this topic. General trend on the executive compensation for each sector in the hospitality industry is discussed in the following section.

**Restaurant**

Triarc, franchisor of the Arby's restaurant chain, paid CEO Nelson Peltz the princely sum of $25.2 million in 2000, including more than $15 million in restricted stock and long-term compensations. This package vaulted Peltz to the top of the heap in the restaurant world, up from No. 3 last year. Peltz's pay came to more than what the No.2 executive, Tricon Global's David Novak, and No.3, McDonald's CEO Jack Greenberg, received combined.

Much criticism has been offered, however, of the awarding of such generous executive compensation packages (Kay, 1998). As that study suggests, not only are CEOs excessively compensated; they also enjoy inordinately high pay hikes compared to those of other, more average, workers.

Executive compensation consultant HVS conducted Restaurant Business's CEO compensation study using its "pay-for-performance" index (Mehegan, 1998). This system weighs compensation against company earnings, sales, stock prices, and other factors. If an executive scores 100, it means the person has earned his or her pay. Any score above 100 indicates executive performance above and beyond the call. A score below 100 suggests the CEO did not in fact earn his or her pay (Mehegan, 1998). Of 97...
executives surveyed by HVS, 48, or roughly half, scored over 100, a decline from the last year, when 57% of restaurant CEOs earned their keep ("Survey says...", 2001).

According to HVS’s 1998 survey of the 100 CEOs listed, only 33 had scores above the cut-off, i.e., 2/3 of CEOs for the biggest publicly traded restaurant companies in the country did not earn their pay (Mehegan, 1998).

Within the restaurant sector, stock options were the favored incentive-based compensation for corporate officers in the mid 1990s, since food service stocks were then favored on Wall Street. As a result, many small companies used option-heavy compensation packages to draw big-name executives ("Stock options: The favored incentive", 1993).

For example, Outback Steak is one of companies that made a successful debut during that time due to soaring stock prices. However, according to HVS VP Mansbach, stock options will be worth less in the future, since the restaurant sector has been out of favor on Wall Street since the mid 1990s (Mehegan, 2001). As a result, bonus incentives have become preferable options. The Hospitality Compensation Exchange study, conducted by HVS, further suggests that while stock options remain a long-term incentive to attract top executives, more restaurant companies are beefing up base salaries, bonuses and benefit packages to compete for all levels of talent (Berta, 2001). In other words, the structure of compensation is changing in the restaurant sector. Another reason for increased preference for bonuses over stock options is discussed in Restaurant Business ("Cash & carry", 2001): while stock option bonuses remain an effective way to keep officers around, it may take years for them to in fact pay off. Thus, boards, not wanting to risk waiting for options to vest, are looking for more immediate incentives and prizes.
According to HVS, the executive compensation consultant, in a repeat of last year's trend, bonuses were the preferred method for rewarding and retaining CEOs of public companies. Cash incentives were up 18.4% year-over-year, while average salary rose 4%, roughly in line with inflation. Values of stock-option grants, meanwhile, fell by 24% (Mehegan, 2001).

Casino

As within other industries, the issue of generous executive compensation within the casino sector raises questions about links between CEO compensation and company performance. Only a few decades ago, U.S. gaming had been restricted to Atlantic City, New Jersey, and to the state of Nevada. Today, however, 48 of 50 states within the U.S. allow some form of legalized gaming; as many as 21 states even offer Las Vegas style gaming experiences (Kefgen & Keung, 1999). Moreover, many of today's casinos nationwide are complex webs of myriad entertainment options - hotels, gaming, restaurants, shows, and more (Kefgen & Mahoney, 1996).

With the unprecedented growth within this industry, combined with the new complexity of casino operation in and of itself, sophisticated and knowledgeable management teams have become crucial to financial success. In turn, upward pressure on executive compensation continues (Kefgen & Keung, 1999).

According to a 1997 HVS survey, gaming companies are taking steps to corral executive pay by tying compensation to company performance. That year, fifty-nine gaming CEOs met the criteria to be included in the survey, and were then tested by using its "pay-for-performance" index. Indices ranged from 1.4 to 206. Thirty gaming CEOs ranked above the average rating of 100; 29 ranked below (Kefgen & Keung, 1997). The
HVS survey also found that gaming executives out-earned their hotel and restaurant counterparts by almost 10%, and that executive perks in the casino sector was much more generous than those within the hotel and restaurant sectors (Kefgen & Mahoney, 1996). Goebel (2000) confirmed this finding in his article, stating that the general manager of a typical gaming property may expect to out earn his counterpart at a hotel by a significant margin. The general manager of a gaming operation doing between $2 and $50 million annually earns nearly 40% more than a general manager in a 250-500 room hotel. As sizes and revenues of the respective properties increase, differences become even more dramatic.

The HVS survey also analyzed compensation for the three primary gaming markets: Atlantic City; Las Vegas, and Mississippi. Geographically, Atlantic City and Las Vegas executives earned more than their Mississippi counterparts by a wide margin (Kefgen & Keung, 1999). GMs in Atlantic City earned 17 percent more than their Las Vegas peers.

The relationship between the size of a casino and executive salaries has also been found to be significant; an increase in size tends to result in increased compensation (Kefgen & Mahoney, 1996). In summary, location and size correlate to compensation levels within the casino sector.

While bonuses remained fairly consistent as a percentage of base salary, gaming executives were awarded long-term incentives in record numbers, plus short-term incentives. Average numbers of stock options awarded gaming executives have increased in most cases. In 1996, CEOs averaged 197,535 stock option grants, while in 1998 CEOs received an average of 232,637 (Kefgen & Keung, 1999).
Within the hotel sector, stockholders also often wonder whether CEOs are in fact paid more than they deserve, and how they justify making these millions. According to the HVS survey, executives of larger, more complex hotels continue earning the most. Large convention and resort hotels pay more than their smaller all-suite and extended-stay counterparts. There remains a wide disparity of compensation levels for executives within this industry, depending on the type, class, size and geographical location of their hotel properties (Kefgen & Mahoney, 1998). Type of hotel refers to a property’s physical characteristics as well as operation complexity. Complexity ranges from the simplest extended stay property to the most complex convention property.

The survey confirmed that size was the best predictor of compensation level. The only exception to that rule was compensation at small luxury resorts and boutique properties located in city centers (Kefgen & Mahoney, 1998).

Another factor that can substantially affect CEO compensation is geographical location. Managers in the Mountain/Pacific region and New England/Mid-Atlantic regions are generally paid more than peers in other areas, due to higher regional hotel value. The HVI (Hospitality Valuation Index), developed by HVS, is a hotel valuation benchmark based on occupancy; room rates; local operating performance; projections of supply and demand, and capitalization rates (Kefgen & Mahoney, 1997).

Compensation may also be correlated to the characteristics of a location itself. For example, hotel managers in center city and resort areas earn substantially more than do peers at hotels along highways or within suburbs.
A 1996 analysis of 1996 CEO lodging industry pay found that stock options were liberally dispensed. Twenty-one of the 32 CEOs profiled received long-term incentives in the form of stock options. Many best-paid CEOs ran companies that have been public for fewer than five years. It is more typical of a young company to be aggressive in granting stock options (Kefgen & Mahoney, 1997).
CHAPTER 3

DATA AND METHODOLOGY

Introduction

This study's objective is to investigate whether CEO cash compensation is linked to a firm's performance, and also to further identify determinants of CEO cash compensation within hotel, casino and restaurant sectors. Chapter 3 covers the following areas: data sources; sampling procedures; variables; models; statistical methodology, and hypothesis testing. In particular, this chapter will focus on discussion of selected variables used in order to justify adoption of such variables (which have not been used in previous studies).

Data Sources/Sampling Procedures

Data Sources

1. COMPUSTAT (Research Insight)

This study tests firms within each sector in the hospitality industry listed under Standard Industrial Classification codes (SIC) for hotel (7011), casino (7990), and restaurant (5812). Sample firms of each sector were obtained from COMPUSTAT. This study obtained data for all financial measures within the sample from COMPUSTAT. All data were collected for calendar years 1995 to 2000, inclusive.
2. www.edgar-online.com

The Edgar website is provided by the Securities Exchange Commission. Information on CEO compensation was obtained from corporate proxy statements (DEF 14A) filed with the Securities Exchange Commission. Proxy statements include extensive information pertaining to compensation of the CEO and the next four highest paid officers. CEO cash compensation included base salary for fiscal years 1995 to 2000, inclusive, as well as any annual bonuses earned from 1995 to 2000. Data of stock options from 1995 to 2000 for dummy variables was also collected from corporate proxy statements (DEF 14A).

3. www.bls.gov/cpi/

Bureau of Labor Statistics (U.S. Department of Labor)

To insure comparability across years, and to eliminate the factor of effects of inflation on CEO cash compensation, cash compensation for each year was adjusted with CPI (Consumer Price Index). CPI information for 1995-2000 was obtained from the Bureau of Labor Statistics.

4. http//finance.yahoo.com

Annual stock prices for computation of annual percentage change of stock return (SR) were obtained from http//finance.yahoo.com. Stock prices were adjusted for dividends and stock splits.

Sampling Procedures

Among sample firms for each sector obtained from COMPUSTAT, firms not directly related to operating hotel, casino, or restaurants, such as slot machine manufacturers.
supplier companies, or consulting companies, have been dropped from the sample. More
detailed discussion of sampling firm data for each sector is included below.

1. Hotel

The initial sample consisted of all hotels within Standard Industrial Classification
(SIC) code 7011 on the 1995-2000 COMPUSTAT database. After excluding
non-lodging operating companies, such as consulting firms, the final sample was
narrowed to 22 companies.

2. Casino

The initial sample consisted of all casino related firms within Standard Industrial
Classification (SIC) code 7990 on the 1995-2000 COMPUSTAT database. After
excluding non-casino operating companies, such as slot machine manufacturers
and consulting firms, the final sample was narrowed to 25 companies.

3. Restaurant

The initial sample consisted of all restaurant related firms within Standard
Industrial Classification (SIC) code 5812 on the 1995-2000 COMPUSTAT
database. After excluding non-restaurant operating companies, such as equipment
manufacturers; management service companies; and entertainment complexes, the
final sample was narrowed to 61 companies.

Like previous studies (for example, Attaway, 2000; Lobingier, 2000, and Joyce,
2001), this study collected multiple-year observations of sample firms' relevant financial
data from 1995-2000. Other previous studies (Newman & Bannister, 1998; Mishra &
Nielsen, 1999; Ueng, 2000) used only single-year observations. Multi-year, rather than
single-year performance measures are used in the present study; however, since these are
less sensitive to transitory occurrences, and thus may provide more accurate indicators of CEO performance. Pooling performance data into a four or five-year average [as does the present study] also reduces variability, and provides a more reliable and valid measure of firm performance than annual measures (Gomez-Mejia, Tosi, & Hinkin. 1987).

CEO compensation data for firms examined within this study have been obtained from primary sources in the form of proxy statements. Any firm with data unavailable on the Edgar website (www.edgar-online.com, provided by the Securities Exchange Commission) was excluded from the sample. Additionally, data for any given firm have been included in the test sample only if data for each dependent and independent variable examined are available for at least one year covered by the study.

In general, CEO compensation for the current year (2001) had been determined based on prior year’s performance. Therefore, this study uses lagged financial firm performances. For example, CEO compensation for 1996 is matched with a firm’s financial firm performance for 1995. Other variables, such as financial condition, dummy (stock options), and firm size are not lagged, however, since these particular variables do not affect CEO compensation for the next year. After completing all of the sampling processes, final sample sizes for each sector examined were: 53 for the hotel sector; 77 for the casino sector; and 188 for the restaurant sector.

Variables

This study’s main purpose is to examine determinants of CEO compensation. Previous studies (Abowd, 1990; Crystal, 1993; Gerhart & Milkovich, 1990; Hallock,
1998: Schaefer, 1998) have mainly either examined one feature of one accounting measure, or have used very general performance measures. Another limitation of previous studies has been that the particular accounting measure chosen for analysis has been predicted to be equally important for all firms in the sample regardless of industry (Duru & Iyengar, 1999; Lobingier, 2000).

Ely (1991), however, considers it crucial to also view diverse features of a given industry in the process of measuring firm performance: all firms operate differently, and therefore experience distinct production environments.

Lobingier (2000) adopted nine industry groups in his executive compensation study by using industry-specific variables [the hospitality industry, however, is not included in this particular study]. Representative ratios used by Lobinger were those most often identified by S&P industry analysts, for each industry category, as important to a firm’s performance. Within consumer product industries, for instance, inventory turnover is used to measure management efficiency: with consumer tastes continually changing, it is relatively easy to find one's consumer-based inventory obsolete. Additionally, within these industries, changes in sales growth are used as measures of success. According to industry analysts, in order to remain competitive, a consumer products industry company must have increasing sales growth.

Based, then, on ratios used within previous, similar studies, and on the perceived importance of using industry-specific variables, nine ratios thought to have substantial impact on cash compensation in the hospitality industry have been selected as candidate variables: profitability; liquidity; leverage; efficiency; growth rate, and market performance. Accounting and stock returns are used as firm and market performance
measures in executive compensation studies (Lambert & Larcker, 1987; Sloan, 1993).
Market performance, however, is considered part of the proxies of firm performance within this study, since firm performance inherently reflects on market performance, and also since market performance provides a distinct perspective on firm performance (i.e., directly from the market).

Variables used in this study are classified as: dependent variables; firm performance; financial conditions; dummy variables, and control variables by function. Each variable specification is defined and detailed below.

**Dependent variable**

Total cash compensation is used as a dependent variable. For this study, CEO compensation is operationalized as total cash compensation. Total cash compensation is defined as the sum of annual salary plus bonus. This study thus excludes deferred compensation benefits like pensions; profit sharing plans; stock options, and IRAs. Cash compensation is adjusted with CPI, both to insure comparability across years and to eliminate effects of inflation.

To normalize cash compensation and avoid biases provided by outliers, two previous studies (Attaway, 2000; Ueng, 2000) have used the natural logarithm of CEO salary plus bonus. Logarithm transformation has the effect of stretching extremely small values and condensing extremely large values of variables, thus making its relationship to the dependent variable more linear in a regression analysis (Norusis, 1995). As with these two previous studies, then, cash compensation is similarly log-transformed here.
Independent variables

This study employed profitability ratio; efficiency ratio; and stock return as firm performance measures. Firm performance measures in this study include five specific ratios. These are: return on assets (ROA); net profit margin (NPM); one-year sales growth rate (SG); total assets turnover (ATT), and inventory turnover ratio (IT). Within the restaurant sector, however, inventory is considered more important than total assets in measuring management efficiency. Therefore, IT rather than ATT is used for this sector.

For financial condition measures, this study used three ratios, including long-term debt to capitalization (LDR) and quick ratio (QR). Precisely, EBITDA interest coverage (IC) is considered a measure of both firm performance and financial condition, since EBITDA is another measure of firm performance, and since interest coverage indicates another aspect of financial condition. Detailed discussions of each variable are offered below.

Firm performance

1. Profitability

Prior studies on determinants of CEO pay focus mostly on the relationship between CEO pay and firm performance, proxied by profitability ratios (Jensen & Murphy 1990). Other previous studies (Jensen & Murphy, 1990. Ueng, 2000) find CEO pay closely associated with a firm’s ROA. The present study employs a firm’s return on assets (ROA) and net profit margin (NPM) as variables measuring the firm’s profitability. NPM represents a different aspect of profitability, and has thus been added to ascertain which aspects of profitability demonstrate the strongest impact on CEO compensation.
2. Growth rate

This study uses one-year change of sales growth. Previous studies find CEO pay closely associated with a firm's growth rate. Sridharah (1996) found a positive relationship between CEO pay and growth in sales. Winn & Shoenhair (1988), however, conclude, paradoxically, that compensation is negatively related to revenue growth rates. This particular finding may in fact be taken as support for Baumol’s hypothesis that managers have nonpecuniary motives to maximize revenues. This particular finding may in fact be taken as support for Baumol’s hypothesis that managers have nonpecuniary motives to maximize revenues.

3. Efficiency

The present study uses asset turnover (ATT) for the hotel and casino sector and inventory turnover (IT) for the restaurant sector, respectively, as measures of management efficiency. Since cost of goods sold (COGS) is a major expense factor within the restaurant sector, high inventory turnover indicates a manager’s efficiency level in generating sales revenue. Therefore, especially for the restaurant sector, IT is considered a superior measure of management efficiency. Lobingier (2000) used IT to examine the consumer product industry. In that study, IT was deemed positively related to compensation. ATT, however, is a newer proxy not considered in previous studies. Based on the importance of industry-specific variables, ATT is employed for the hotel and casino sectors, respectively, although not the restaurant sector, since it measures overall efficiency of management using all assets, including fixed assets such as rooms and facilities. Since the hotel and casino sectors are fixed asset-intensive industries, brisk utility of fixed assets is important to generating revenues. ATT, which instead measures
total assets, is however considered more important than ATT within the hotel and casino sectors.

Financial conditions

1. Liquidity

This study uses quick ratio (QR), a new proxy not found in previous studies of this sort, to represent firm liquidity. The casino sector in particular possesses the tendency of high QR. QR is used within this study to ascertain whether high levels of cash liquidity used to absorb current liabilities have impact on cash compensation in the hospitality industry as well.

2. Leverage Ratio

The current study uses long-term debt to total capitalization (LTD) and EBITDA interest coverage ratio (IC) to represent a firm’s leverage condition. These are two additional proxies unused in other studies. Like QR, a firm’s leverage condition is thought to have effect on CEO compensation within the hospitality industry. According to Jensen (1986), debt leverage is considered a mechanism to control agency cost related to free cash flow. Therefore, using debts may help in reducing agency problems by providing ample compensation. High EBITDA to pay interest is believed to have a positive correlation to compensation. According to Kefgen, president of HVS Executive Search (1997), growth in EBITDA, rather than net income and ROE, is used as a performance criterion to reflect investors' increased interest in EBITDA.

Market performance

One-year stock return is used here as a measure of market performance. Lewellen & Huntsman (1970) theorized that stock performance relates to company performance, and
also found equity market values to be a major factor in the determination of corporate executive compensation levels. Coughlan & Schmidt (1985) also used stock return as a variable in their study. Kerr & Bettis (1987) explored this same relationship by analyzing annual stock returns.

Control variable

CEOs of larger companies tend to be better compensated than CEOs of smaller ones. Three previous studies (Ciscel & Carroll, 1980; Gomez-Mejia & Wiseman, 1997; Finkelstein & Hambrick, 1989) show CEO compensation closely correlated to firm size. Firm size has therefore been controlled within the present study. To measure firm size, Mishra & Nielsen (1999) use the logarithm of total assets. This study also employs a firm’s total assets (LOGAST, the natural logarithm of a firm’s total assets).

Empirical findings suggest a size/pay relationship causal, and therefore reflective of more than a matching of CEOs to firms based on ability. These findings also show CEOs tend to increase their pay with increased firm size, even when a size increase reduces a firm’s overall market value.

Dummy variable

This also study uses a dummy variable to determine whether companies offering stock options tend also to pay less cash compensation. The dummy variable is coded "1" for firms providing stock options in addition to cash compensation, and "0" for firms not providing stock options plus cash compensation. If the dummy variable is positive and significant, this indicates that companies offering stock options tend to give higher levels of cash compensation, while companies that do not offer stock options give lower ones.
Model

Multiple regression models were established for the present study to identify determinants of CEO cash compensation. CEO compensation was selected as the dependent variable (Y) to be predicted by variables representing firm performance, financial conditions, and firm size, as well as the dummy variable. The same regression is run separately for the hotel, casino, and restaurant sectors. The regression model consists of the following:

Annual cash CEO compensation

\[ \text{Annual cash CEO compensation} = b_0 + b_1 \times \text{ROA} + b_2 \times \text{NPM} + b_3 \times \text{QR} + b_4 \times \text{SG} + b_5 \times \text{LTD} + b_6 \times \text{EIC} + b_7 \times \text{ATT/IT} + b_8 \times \text{SR} + b_9 \times \text{TA} + b_{10} \times \text{DUMMY} \]

where \( b_0 \) = constant of the regression equation

\( b_1, b_2, b_3, b_4, b_5, b_6, b_7, b_8, b_9, \) and \( b_{10} \) = coefficient of ROA, NPM, QR, SG, LTD, IC, ATT/IT, SR, TA, and DUMMY

Ten variables within the model consist of 1) firm performance (ROA, NPM, SG, SR, and ATT/IT); 2) financial conditions (QR, IC, and LTD); 3) control variable (TA); and 4) the dummy variable (stock option). For the restaurant sector, inventory turnover (IT) is used instead of asset turnover (ATT) as a proxy of a firm's management efficiency because inventory is a better measurement of management efficiency than is total assets within that sector. A distinct relationship between each variable and CEO compensation is hypothesized here in order to attempt to prove various (perceived) determinants of CEO compensation.

This study also expects to discover a positive relationship between CEO effectiveness and firm performance, thus justifying greater financial rewards for CEOs. It is therefore
important to identify all factors determining the relative importance of CEO compensation. To examine the determinants of CEO cash compensation on the basis of selected variables in the above model, it is hypothesized that:

**Null Hypotheses**

\[ H_0: \text{Each coefficient of variables in the model is not correlated with cash compensation for firms in the hospitality industry.} \]

\[ (b_i = 0) \]

\[ b_1, b_2, b_3, b_4, b_5, b_6, b_7, b_8, b_9, \text{ and } b_{10} = \text{coefficient of ROA, NPM, QR, SG, LTD, IC, ATT/IT, SR, TA, and DUMMY} \]

**Alternative Hypotheses**

\[ H_a: \text{Each coefficient of variables in the model is correlated with cash compensation for firms in the hospitality industry.} \]

\[ (b_i \neq 0) \]

1. The coefficient of ROA is positively correlated with cash compensation for firms in the hospitality industry.

\[ (b_1 > 0) \]

2. The coefficient of NPM is positively correlated with cash compensation for firms in the hospitality industry.

\[ (b_2 > 0) \]

3. The coefficient of QR is positively correlated with cash compensation for firms in the hospitality industry.

\[ (b_3 > 0) \]
4. The coefficient of SG is positively correlated with cash compensation for firms in the hospitality industry.

\( b_4 > 0 \)

5. The coefficient of LTD is negatively correlated with cash compensation for firms in the hospitality industry.

\( b_5 < 0 \)

6. The coefficient of IC is positively correlated with cash compensation for firms in the hospitality industry.

\( b_6 > 0 \)

7. The coefficient of ATT is positively correlated with cash compensation for firms in the hospitality industry.

\( b_7 > 0 \)

8. The coefficient of IT is positively correlated with cash compensation for firms in the hospitality industry.

\( b_7 > 0 \)

9. The coefficient of SR is positively correlated with cash compensation for firms in the hospitality industry.

\( b_8 > 0 \)

10. The coefficient of firm size is positively correlated with cash compensation for firms in the hospitality industry.

\( b_9 > 0 \)

11. The coefficient of the dummy variable is negatively correlated with cash compensation for firms in the hospitality industry.
The same hypothesis is tested for the hotel, casino, and restaurant sectors, respectively. For testing the hypothesis, if the coefficient of a variable is significant as stated direction in the alternative hypothesis, its null hypothesis is rejected, indicating that the variable is a determinant of CEO cash compensation.

Statistical Methodology and Hypothesis Testing

The hypothesis in this study was tested using both multiple regression analysis and correlation analysis (Gomez-Mejia et al., 1987; Kerr & Bettis, 1987; Gerhart & Milkovich, 1990; Miller, 1995). Multiple regression models are used to investigate the relationship between CEO cash compensation and firm performance, and to further examine the determinants of CEO compensation. The same regression is run separately for each of the hotel, casino, and restaurant sectors.

The term multicollinearity refers to the linear relationship between independent variables. Its presence can make a multiple regression model unreliable. To detect a potential problem with multicollinearity, tolerance and VIF values are calculated in this study. A high tolerance indicates little collinearity, and tolerance values approaching zero indicate that the variables are almost totally accounted for by other variables. The variance inflation factor (VIF) is the reciprocal of the tolerance value. Therefore, small VIF values would be an indication of low intercorrelation among variables (Hair et al., 1995).

To check serially correlated or auto-correlated residuals, the Durbin-Watson Test is conducted in this study. One assumption of regression analysis is that the residuals for
consecutive observations are uncorrelated. If true, the expected value of the Durbin-Watson statistic is 2. Values of less than 2 indicate positive autocorrelation, a common problem in time-series data. Values greater than 2 indicate negative autocorrelation.

For data normality concerns, cash compensation and total assets were transformed by taking their base 10 logarithms, since these two variables reveal departure from the diagonal line, indicative of a departure from normality (skewness). These logarithms were substituted for the original values in this analysis. The transformed variables can be used with the assurance that they met the assumptions for normality (Hair et al., 1995).

Since the ultimate objective is to identify determinants of compensation in a model that has the greatest explanatory power, this study uses backward elimination in running the regression in SPSS to obtain an optimal model. Backward elimination is a variable selection procedure for which all variables are entered into the equation, and then sequentially removed. If it meets the criteria for elimination, it is removed. After the first variable is removed, the remaining variable within the equation that has the smallest partial correlation is next considered. The procedure ends when there are no variables in the equation that satisfy the removal criteria. The same regression was run separately for both the casino and restaurant sectors.
CHAPTER 4

RESULTS AND FINDINGS

Introduction

In Chapter 3, research methodology and data collection were discussed. This chapter will present the results and findings of this study. The chapter is organized as follows:

1. Description of Sample
   a. Descriptive Statistics for CEO cash compensation
   b. Descriptive Statistics for Variables

2. Hypothesis Testing
   c. Tests of regression variables.

Initially, the descriptive statistics of the study are offered to provide an overview of the data set. Then, the results generated by the multiple regressions using backward elimination for the hotel, casino, and restaurant sector respectively will illustrate the relationship between cash compensation and variables selected in the model, and further identify factors in the determination of CEO cash compensation.

The results of the multiple regression demonstrate adjusted R Square, Durbin-Watson (DW), Tolerance, VIF, t values, the statistical significance of independent variables, selected variables out of originally employed ten variables in the model.
Description of Sample

Description of Cash Compensation

In order to see the changes of cash compensation for three sectors by year, the cash compensation is demonstrated separately for each sector. Compensation data for year 2000 is not presented, due to very limited data availability.

Table 2
Descriptive Statistics for CEO Cash Compensation of Hotel

<table>
<thead>
<tr>
<th>Year</th>
<th>Mean</th>
<th>SD</th>
<th>Median</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>$474,487</td>
<td>$398,000</td>
<td>$429,312</td>
<td>$36,000</td>
<td>$1,496,000</td>
</tr>
<tr>
<td>1996</td>
<td>$489,722</td>
<td>$373,054</td>
<td>$438,999</td>
<td>$100,000</td>
<td>$1,650,620</td>
</tr>
<tr>
<td>1997</td>
<td>$620,633</td>
<td>$699,537</td>
<td>$359,892</td>
<td>$52,500</td>
<td>$2,957,500</td>
</tr>
<tr>
<td>1998</td>
<td>$475,097</td>
<td>$407,269</td>
<td>$359,370</td>
<td>$146,020</td>
<td>$1,951,300</td>
</tr>
<tr>
<td>1999</td>
<td>$580,009</td>
<td>$453,918</td>
<td>$427,296</td>
<td>$172,098</td>
<td>$1,973,884</td>
</tr>
</tbody>
</table>

The mean of CEO compensation of the hotel sector has gradually increased year by year except during 1998, with an average annual increase of 7.125%, while the average annual increase of median is only 0.75%. This indicates that there is not much increase of compensation in the overall hotel sector. Among the 22 sample firms, Starwood Hotels & Resorts (HOT) had the greatest CEO compensation of $2,957,500 in 1997.
Table 3.
Descriptive Statistics for CEO Cash Compensation of Casino

<table>
<thead>
<tr>
<th>Year</th>
<th>Mean</th>
<th>SD</th>
<th>Median</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>$596,017</td>
<td>$393,628</td>
<td>$583,333</td>
<td>$91,985</td>
<td>$1,574,137</td>
</tr>
<tr>
<td>1996</td>
<td>$518,158</td>
<td>$403,798</td>
<td>$382,055</td>
<td>$65,423</td>
<td>$1,500,000</td>
</tr>
<tr>
<td>1997</td>
<td>$634,475</td>
<td>$516,874</td>
<td>$479,835</td>
<td>$70,000</td>
<td>$1,996,500</td>
</tr>
<tr>
<td>1998</td>
<td>$768,674</td>
<td>$538,795</td>
<td>$654,591</td>
<td>$87,308</td>
<td>$1,996,500</td>
</tr>
<tr>
<td>1999</td>
<td>$1,086,720</td>
<td>$986,308</td>
<td>$729,549</td>
<td>$27,000</td>
<td>$4,007,693</td>
</tr>
</tbody>
</table>

The mean of CEO compensation for the casino sector has gradually increased year by year except during 1996, with an average annual increase of 17.98%. The average annual increase of median is 9.74%. This indicates there is some increase of compensation in the overall casino sector. Mr. Arthur Goldberg of Park Place Entertainment (PPE) received the greatest cash compensation of $4,007,693 in 1999. 1999 is the only available year in the proxy statements of PPE. Thus, the relatively huge jump of mean of 1999 may be explained by a single huge data of 1999 cash compensation of PPE.

Table 4.
Descriptive Statistics for CEO Cash Compensation of Restaurant

<table>
<thead>
<tr>
<th>Year</th>
<th>Mean</th>
<th>SD</th>
<th>Median</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>$409,788</td>
<td>$388,170</td>
<td>$293,105</td>
<td>$1,995</td>
<td>$2,100,925</td>
</tr>
<tr>
<td>1996</td>
<td>$452,206</td>
<td>$458,658</td>
<td>$298,843</td>
<td>$1,996</td>
<td>$2,048,475</td>
</tr>
<tr>
<td>1997</td>
<td>$481,027</td>
<td>$564,116</td>
<td>$270,000</td>
<td>$1,997</td>
<td>$3,073,294</td>
</tr>
<tr>
<td>1998</td>
<td>$598,934</td>
<td>$712,703</td>
<td>$340,000</td>
<td>$1,998</td>
<td>$3,600,000</td>
</tr>
<tr>
<td>1999</td>
<td>$607,248</td>
<td>$692,978</td>
<td>$336,023</td>
<td>$1,999</td>
<td>$3,330,000</td>
</tr>
</tbody>
</table>

The mean of CEO compensation for the restaurant sector has gradually increased year by year with an average annual increase of 10.65%, while the average annual increase of
median is 3.98%, indicating some increase of CEO cash compensation in the restaurant sector. The median in 1997 dropped to 270,000. This year, CEO compensation of the 100 best-compensated CEOs in the restaurant sector showed very respectable year-to-year increases by 13.2% among the highest-paid CEOs. But real action was in the generous granting of stock options (Raffio, 1997).

As to the greatest CEO compensation, Tricon Global Restaurants was ranked top for the consecutive two years of 1998 and 1999, beating the previous winner, MacDonald's. However, through further examination of the data, it was found that MacDonald's had increased its stock options in relation to the moderate salary rate over years.

**Description of variables**

Table 5. Descriptive Statistics for Variables of Hotel

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Median</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dummy</td>
<td>0.611</td>
<td>0.492</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>NPM</td>
<td>6.206</td>
<td>9.9197</td>
<td>4.669</td>
<td>-26.31</td>
<td>34.676</td>
</tr>
<tr>
<td>SR</td>
<td>10.689</td>
<td>74.2798</td>
<td>-3.4395</td>
<td>-65.907</td>
<td>440</td>
</tr>
<tr>
<td>SG</td>
<td>63.8674</td>
<td>138.1372</td>
<td>15.775</td>
<td>-66.72</td>
<td>850.3</td>
</tr>
<tr>
<td>LTD</td>
<td>52.0684</td>
<td>24.2213</td>
<td>51.4725</td>
<td>0</td>
<td>99.307</td>
</tr>
<tr>
<td>QR</td>
<td>1.0388</td>
<td>1.3123</td>
<td>0.694</td>
<td>0.24</td>
<td>8.569</td>
</tr>
<tr>
<td>ATT</td>
<td>0.7176</td>
<td>0.5713</td>
<td>0.5245</td>
<td>0.124</td>
<td>2.481</td>
</tr>
<tr>
<td>TA($mil)</td>
<td>$1,161.94</td>
<td>$1,973.22</td>
<td>$357.31</td>
<td>$10.03</td>
<td>$7,826.00</td>
</tr>
</tbody>
</table>

Table 5 summarizes the descriptive statistics of independent variables for the sample of 22 hotels with 53 observations from 1995 to 2000. As would be expected, some very wide variations exist for some of the variables, as indicated in Table 5. For example, percentage change of one-year stock return (SR) has an average of 10.7%, with a
standard deviation of 74.3%. Similarly, the one-year sales growth rate (SG) has an
average of 63.9%, with a standard deviation of 138.2%. These variations reveal
significant differences between the largest and the smallest values. The total asset size of
the firm is widely spread from $10.03 million to $7,826 million, with an average firm
size of $1,162 million. The largest is 780.25 times the size of the smallest.

Table 6.

Descriptive Statistics for Variables of Casino

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Median</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dummy</td>
<td>0.4487</td>
<td>0.5005</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>ROA</td>
<td>0.2339</td>
<td>10.5116</td>
<td>1.4865</td>
<td>-53.707</td>
<td>20.161</td>
</tr>
<tr>
<td>NPM</td>
<td>0.6426</td>
<td>12.1486</td>
<td>2.588</td>
<td>-70.674</td>
<td>23.204</td>
</tr>
<tr>
<td>SR</td>
<td>-0.3983</td>
<td>56.1001</td>
<td>-16.767</td>
<td>-80.281</td>
<td>232.275</td>
</tr>
<tr>
<td>SG</td>
<td>26.6188</td>
<td>36.5475</td>
<td>15.345</td>
<td>-49.5</td>
<td>171.86</td>
</tr>
<tr>
<td>LTD</td>
<td>55.7344</td>
<td>26.8581</td>
<td>59.314</td>
<td>0.175</td>
<td>113.301</td>
</tr>
<tr>
<td>INT CO</td>
<td>21.3516</td>
<td>121.2091</td>
<td>2.7065</td>
<td>-17</td>
<td>1050.398</td>
</tr>
<tr>
<td>QR</td>
<td>1.1778</td>
<td>1.1798</td>
<td>0.8215</td>
<td>0.084</td>
<td>7.628</td>
</tr>
<tr>
<td>ATT</td>
<td>0.9306</td>
<td>0.6299</td>
<td>0.7695</td>
<td>0.391</td>
<td>4.016</td>
</tr>
<tr>
<td>TA ($mil)</td>
<td>$717.01</td>
<td>$876.53</td>
<td>$323.03</td>
<td>$4.41</td>
<td>$3,869.71</td>
</tr>
</tbody>
</table>

Table 6 summarizes the descriptive statistics of independent variables for the sample
of 25 casinos with 77 observations from 1995 to 2000. While the mean of EBITDA to
interest coverage ratio (IC) is 21.35, the median is only 2.7. The largest ratio of IC
(1050.398) may result in a comparatively higher mean than median. Compared to the
hotel sector, the casino and restaurant sectors show lower NPM by 9.64 times, indicating
these two sectors perform poorly in terms of profitability compared to the hotel sector.
The mean of stock return is -0.39% with the median of -16.7%, suggesting that overall
stock performance is poor in the casino sector. Total asset size of the firms is widely
ranged from $ 4.41 million to $3.870 million, with an average firm size of $ 717.02 million. The largest is 877.35 times the size of the smallest.

Table 7.
Descriptive Statistics for Variables of Restaurant

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Median</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dummy</td>
<td>0.5925</td>
<td>0.4926</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>ROA</td>
<td>-0.3076</td>
<td>15.9424</td>
<td>3.829</td>
<td>-95.985</td>
<td>27.848</td>
</tr>
<tr>
<td>NPM</td>
<td>0.6494</td>
<td>9.3985</td>
<td>2.353</td>
<td>-65.008</td>
<td>31.547</td>
</tr>
<tr>
<td>SR</td>
<td>1.5992</td>
<td>44.7585</td>
<td>-4.96</td>
<td>-98.895</td>
<td>150.321</td>
</tr>
<tr>
<td>SG</td>
<td>12.2414</td>
<td>22.9037</td>
<td>8.5</td>
<td>-44.69</td>
<td>152</td>
</tr>
<tr>
<td>LTD</td>
<td>40.8743</td>
<td>44.1848</td>
<td>29.133</td>
<td>-78.281</td>
<td>317.864</td>
</tr>
<tr>
<td>INT CO</td>
<td>22.741</td>
<td>119.3351</td>
<td>7.026</td>
<td>-30.559</td>
<td>1576.923</td>
</tr>
<tr>
<td>QR</td>
<td>0.4773</td>
<td>0.4625</td>
<td>0.338</td>
<td>0.008</td>
<td>3.225</td>
</tr>
<tr>
<td>IT</td>
<td>66.7847</td>
<td>39.3934</td>
<td>55.939</td>
<td>8.551</td>
<td>201.172</td>
</tr>
<tr>
<td>TA($ mil)</td>
<td>$652.79</td>
<td>$2,577.94</td>
<td>$105.33</td>
<td>$4.02</td>
<td>$19,784.40</td>
</tr>
</tbody>
</table>

Table 7 summarizes descriptive statistics of independent variables for the sample of 61 restaurants with 188 observations from 1995 to 2000. Among the three sectors, the restaurant sector indicates the lowest average of 40.87% of LTD. Stock return has an average of 1.59% and a median of -4.96% with a standard deviation of 44.76%, indicating comparatively poor stock performance.

Total asset size of the firm ranges widely from $ 4.02 million to $19,784.4 million, with an average firm size of $652.79 million. The largest is 4,921.5 times the size of the smallest, suggesting that the majority of the sample consists of small firms.
Hypotheses Testing

The hypothesis is tested to examine the determinants of CEO compensation in the model by using multiple regression analysis.

Regression Analysis

A multiple regression analysis was attempted to examine the determinants of CEO compensation for each sector. To apply this procedure, CEO compensation was selected as the dependent variable (Y) to be predicted by variables representing firm performance: financial conditions; dummy variable (stock option), and control variable (firm size).

Table 8 presents the result of regression equations estimated to investigate the determinants of CEO compensation in the hotel sector. Presented in the table are model-adjusted R Square, Durbin-Watson (DW), the coefficients of the independent variables, t values, tolerance and VIF, two statistics for checking multicollinearity. Since the main purpose of this study is to identify the determinants of CEO cash compensation, the model’s explanatory power is important. In an attempt to establish a model that has the most explanatory power with selected variables, this study used backward elimination in running the regression in SPSS.
Table 8 shows the summary of the final model through backward elimination for the hotel sector. Overall regression results are good. The adjusted R Square of 0.756 indicates a high proportion of explained variance to the total variance of the dependent variable. To test for the impact of collinearity of variables in the final model, tolerance and VIF values were calculated. A high tolerance and small VIF values would be an indication of low intercorrelation among variables (Hair et al., 1995). For this analysis,
all the tolerance values in the model are greater than 0.1, and VIF values are less than 10, as shown in Table 8. These results indicate that interpretation of the regression coefficients should not be affected adversely by multicollinearity (Norusis, 1995).

To check serially correlated residuals, the Durbin-Watson Test was conducted in this study. One of the assumptions of regression analysis is that the residuals for consecutive observations are not correlated. For this analysis, a DW value of 1.381 is less than 2, indicating that there may be positive autocorrelation, a common problem in time-series data. Dummy variables were added to control for the possible impact of time series on the serial residual correlation. The DW value, however, did not increase.

Among the originally employed ten selected variables, four are found to be positively significant, and two negatively significant in the backward selection model. The other four variables (ROA; NPM; SG, and QR) fail to be the determinants of CEO compensation in the model of the hotel sector. Therefore, the null hypothesis of each variable eliminated in the model is not rejected, illustrating that the coefficient of each variable is not correlated with cash compensation.

The relationship between CEO compensation and dummy, interest coverage (IC); total asset turnover (ATT), and total asset (TA) are highly significant at the .10, .001, and .001 levels, respectively. The null hypothesis for each of IC, ATT, and TA is rejected, indicating that each of these variables is positively correlated with CEO cash compensation.

The null hypothesis of dummy is rejected at the .10 level; however, its positive coefficient is contrary to the expected negative correlation. This positive coefficient
shows that companies offering stock options tend to give higher cash pay while companies without such options tend to give lower cash pay.

The relationship between CEO compensation and SR and LTD is found to be negatively significant at the .001 and .05 levels, respectively. The null hypothesis for LTD is rejected, indicating that LTD is negatively correlated with cash compensation as expected. Although SR had been expected to correlate positively with cash compensation in the alternative hypothesis, the coefficient of SR was found to be negative and significant. The negative correlation indicates that CEOs of hotels with lower stock returns were not penalized by lower cash compensations. On the contrary, they actually received more.

More detailed analysis by function of variables is discussed below:

**Firm performance**

A set of variables of ROA; NPM; SR; SG; IC and ATT is employed in this study as measures of firm performance. In the hotel sector, ATT is found to be positively significant at the .001 level, suggesting that cash compensation is accounted for by management efficiency rather than by the firm’s profitability or growth rate in the hotel sector. However, stock return (SR) as an estimate of market performance shows negatively significant coefficient with CEO compensation at the .001 level, indicating that lower SR does not lead to lower CEO compensation. Although prior studies suggest that the firm’s market return is positively related to CEO compensation, this study did not find evidence to support the previous finding. The example of Trump Hotel may support the surprising findings of SR in the hotel sector. In 1996, Trump Hotel increased its CEO pay package by 71%, despite a more than 70% drop in the share of its stock
(Binkley & Christina, 1997). Host Marriott Corp is another example. In 1996, Terence C. Golden, President of Host Marriott Corp, received 11 percent higher compensation than the industry midpoint in the Forbes tally, although Host Marriott’s total return was more than 200 percent above the industry median (Behr, 1997). Therefore, these two examples support the claim that executive compensation is not always tied to stock performance (Behr, 1997).

Financial conditions

A set of variables of LTD; IC and QR is employed in this study as measures of a firm’s financial conditions in an attempt to examine whether such financial conditions have any impact on CEO cash compensation. Financial conditions have not been examined in previous studies of CEO compensation.

Both IC and LTD are found to be significant, indicating that CEO cash compensation is affected by a firm’s leverage conditions in the hotel sector. As expected in the alternative hypothesis, EBITDA interest coverage (IC) shows a positive impact on cash compensation, suggesting high EBITDA to pay interest tend to lead to high cash compensation. The negative coefficient of LTD suggests that the more LTD a firm has, the less compensation it tends to offer, and vice versa. This result supports findings by Jensen (1986) that debt leverage is regarded as a mechanism for controlling agency cost related to free cash flow. Therefore, using debts may help in reducing agency problem by providing ample compensation.
Control variable

The result of a high significant coefficient of TA is consistent with findings from prior studies that CEO compensation is positively related to firm size, indicating that CEOs of larger companies are better compensated than are CEOs of smaller ones.

Dummy variable

A positively significant coefficient of dummy variable of the hotel sector indicates that companies offering stock options tend to give higher cash pay, while companies without such stock options tend to give lower cash pay. This finding is supported by Terry Conley, Senior VP of Cendant Corp, who states that stock options have always been a major part of the compensation package of the lodging industry, even during 1988, when the company's stock value was at its lowest (Walsh, 2001).
Table 9 shows the summary of the final model through backward elimination in the casino sector. Overall regression results are good. The adjusted R Square of 0.727 indicates a high proportion of explained variance to the total variance of the model. Impact of variable collinearity in the final model was tested by calculating tolerance and VIF values. For this analysis, all tolerance values in the model are greater than 0.1 and...
VIF values less than 10, which indicates that interpretation of the regression coefficients in this model should not be affected adversely by multicollinearity.

To check serially correlated residuals, the Durbin-Watson Test was performed in this model. For this analysis, a DW value of 1.459 is lesser than 2, indicating that there might be positive autocorrelation, a common problem in time-series data. Dummy variables were added to control for possible impact of time series on the serial residual correlation. The DW value, however, did not increase.

Among the originally employed ten selected variables, four are found to be positively significant, and two to be negatively significant in the backward selection model. The other four variables (NPM; SR; SG. and LTD) fail to explain the CEO compensation in the model of the casino sector. Therefore, the null hypothesis of each of the variables eliminated in the model is not rejected, indicating that the coefficient of each variable is not correlated with cash compensation.

The relationships between CEO compensation (log base 10) and QR; ROA; dummy, and TA (log base 10) are significantly positive at the .05, .10, .001, and .001 levels, respectively. The null hypothesis for each of QR; ROA, and TA is rejected, indicating each of these variables positively correlated with CEO cash compensation. As in the hotel sector, the null hypothesis of dummy is not rejected, demonstrating that companies offering stock option tend to give higher cash pay while companies without option tend to give low cash pay.

The relationship between CEO compensation and ATT and IC is found to be negatively significant at the .05, and .10 levels, respectively. Although both ATT and IC are expected as correlated positively with cash compensation in the alternative
hypothesis, each coefficient of ATT and IC is found to be negative. Therefore, each null hypothesis is rejected, but an opposite alternative hypothesis holds. More detailed analysis by function of variables is given below.

**Firm performance**

A set of variables of ROA; NPM; SR; SG; IC and ATT is employed in this study as measures of firm performance. In the casino sector, ROA is found to be positively significant at the .10 level, suggesting that ROA explains cash compensation better than NPM from a profitability aspect. This result is consistent with findings of previous studies that ROA is positively correlated with compensation. However, ATT as an estimate of management efficiency shows negatively significant coefficient with CEO compensation at the .05 level, indicating that low ATT is associated with high CEO compensation. This surprising result may be explained by recent increases of total assets of large casinos firms in their developments of new mega-resorts. ATT is affected not only by total sales, but also by total assets. In recent years, many new mega casino resorts have opened. As a result, the increase in total assets in the casino sector outpaced total sales. Therefore, the negatively significant coefficient of ATT indicates that total asset explains ATT even better than total sales does.

**Financial conditions**

A set of variables of LTD; IC and QR is employed in this study as measures of a firm’s financial conditions in an attempt to examine whether these financial conditions have any impact on CEO cash compensation. In the casino sector, QR is found to be significant and positive as expected in the alternative hypothesis, indicating that the more ability to pay short-term liabilities a firm has, the more cash compensation tends to be
paid. This interesting result may reflect the casino sector's general tendency of high QR. However, IC is found to be negatively correlated with cash compensation in contrast to its alternative hypothesis. This contrary result may indicate that casino firms that want to maintain high coverage ability are less likely to lavish cash on executive compensation.

Control variable

As in the hotel sector, the result of a positively significant coefficient of TA is consistent with findings of prior studies that CEO compensation is positively related to firm size.

Dummy variable

Like the hotel sector, the casino sector also shows a positively significant coefficient of dummy variable, indicating that companies offering stock options tend to give higher cash pay while companies without such options tend to give lower cash pay.
Table 10
Regression Summary for Restaurant

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Regression T Value</th>
<th>Significance</th>
<th>Tolerance</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>2.44</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firm performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positively significant (+)</td>
<td>SR*</td>
<td>0.000589</td>
<td>1.787</td>
<td>.076</td>
<td>.954</td>
</tr>
<tr>
<td>Financial condition</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negatively significant (-)</td>
<td>LTD*</td>
<td>-0.000656</td>
<td>-1.763</td>
<td>.080</td>
<td>.976</td>
</tr>
<tr>
<td>Control variable (firm size)</td>
<td>TA***</td>
<td>0.389</td>
<td>19.672</td>
<td>.000</td>
<td>.977</td>
</tr>
<tr>
<td>N</td>
<td>188</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted R</td>
<td>0.697</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DW</td>
<td>1.034</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* = P < .10
** = P < .05
*** = P < .001

Table 10 shows the summary of final model through backward elimination in the restaurant sector. Overall regression results are good. Among the three sectors, the restaurant sector shows the lowest adjusted R Square of 0.697, but still indicates a high proportion of explained variance to the total variance of the model. For the analysis of collinearity of variables in the model, all of the tolerance values in the model are greater than 0.1 and VIF values are less than 10, indicating that interpretation of the regression coefficients in this model should not be affected adversely by multicollinearity.

To check serially correlated residuals, the Durbin-Watson Test was performed in this model. For this analysis, a DW value of 1.034 is less than 2, suggesting the indication of a positive autocorrelation, a common problem in time-series data. Dummy variables
were added to control for the possible impact of time series on the serial residual correlation. The DW value, however, did not increase.

In comparing three sectors of the hospitality industry, the restaurant sector found the least number of determinants of CEO compensation in the regression model. Among the originally employed ten selected variables, two variables are found to be positively significant and one negatively significant in the backward selection model. The other seven variables fail to explain the determinants of CEO compensation in the model of the restaurant sector. Therefore, the null hypothesis of each of the variables eliminated from the model is not rejected, indicating that their coefficients are not correlated with cash compensation.

The relationship between CEO compensation (log base 10) and 1 Yr stock return (SR) and total asset (TA) are positively significant at the .10 and .001 levels, respectively. Therefore, the null hypothesis for each of SR and TA is rejected, indicating that each of these variables is positively correlated with CEO cash compensation in the restaurant sector. This results support findings in previous studies that each of SR and TA is positively related with CEO compensation.

The relationship between CEO compensation and LTD, representing a firm’s leverage ratio, is found to be negatively significant at the .10 level in the model as expected in its alternative hypothesis. Therefore, the null hypothesis of LTD is rejected, indicating that LTD is negatively correlated with CEO cash compensation. This result indicates that companies that have a low long-term debt ratio tend to offer more cash compensation and vice versa. More detailed analysis by function of variables is given below.
Firm performance

A set of variables of ROA; NPM; SR; SG; IC and ATT is employed in this study as measures of firm performance. In the restaurant sector, the stock return (SR), representing a firm’s market performance, is found to be statistically significant at the .10 level. This indicates SR is positively correlated with CEO cash compensation. Therefore, the result of SR is consistent with findings from prior studies that CEO compensation is positively related to stock return.

However, ROA; NPM; SG; IC and ATT are not found in the model, indicating that each of these variables is not correlated with CEO cash compensation. This indicates that profitability, sales growth, and management efficiency are not determinants of CEO compensation in the restaurant sector. Only market performance among variables of firm performance is a factor in determination of CEO compensation.

Financial conditions

A set of variables of LTD; IC and QR is employed in this study as measures of a firm’s financial condition. In the restaurant sector, LTD is found to be significant and negative at the .10 level, indicating that LTD is negatively correlated with cash compensation. This result suggests that if a firm’s capital structure relies more on borrowed funds, less compensation tends to be paid, and vice versa. This result supports findings by Jensen (1986) that debt leverage is regarded as a mechanism for controlling agency cost related to free cash flow.

Control variable

As in the hotel and casino sectors, firm size is positively related with the compensation in the restaurant sectors, showing that CEOs of larger companies are better
compensated than are CEOs of smaller ones. The result of a high significant coefficient of TA at the .001 level is consistent with findings from prior studies that CEO compensation is positively related to firm size.

**Dummy variable**

Unlike in the hotel and casino sectors, dummy variable is not shown in the final model in the restaurant sector, indicating that stock option is not correlated with cash compensation.

Table 11 summarizes the variables found in the model as determinants of CEO cash compensation by firm performance; financial conditions; control variable, and dummy variable for the hotel; casino, and restaurant sectors, respectively.

TABLE 11.
**Summary of Variables Found in the Model**

<table>
<thead>
<tr>
<th>Proxy of firm performance</th>
<th>Hotel</th>
<th>Casino</th>
<th>Restaurant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positively significant (+)</td>
<td>ATT***</td>
<td>ROA*</td>
<td>SR***</td>
</tr>
<tr>
<td>Negatively significant (-)</td>
<td>SR***</td>
<td>ATT**</td>
<td></td>
</tr>
<tr>
<td>Proxy of financial condition</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positively significant (+)</td>
<td>I.C***</td>
<td>QR**</td>
<td></td>
</tr>
<tr>
<td>Negatively significant (-)</td>
<td>LTD**</td>
<td>IC*</td>
<td>LTD*</td>
</tr>
<tr>
<td>Control variable (firm size)</td>
<td>TA***</td>
<td>TA***</td>
<td>TA***</td>
</tr>
<tr>
<td>Dummy variable (stock option)</td>
<td>Dummy*</td>
<td>Dummy***</td>
<td></td>
</tr>
</tbody>
</table>

Adjusted R square 0.756 0.727 0.697

* = P<. 10  
** = P<. 05  
*** = P<. 001
CHAPTER 5

SUMMARY AND CONCLUSIONS

Summary

The issue of top management compensation has received widespread attention from public concerns, stockholders, and regulating agencies for many years. Research on top management compensation has taken place for more than 70 years. However, despite the fact that much criticism has been given about unreasonable pay and inordinately high CEO pay in the hospitality industry, little research on hospitality CEO compensation itself has been done.

The major theoretical framework for researching CEO pay comes from agency theory. Much literature on executive compensation relies on the intuition of the principal-agent model. In particular, there is a presumption managers will have large pay-performance sensitivities to align their interests with those of their shareholders. A positive relationship between CEO compensation and firm performance would be consistent with agency theory (Barkema and Gomez-Mejia 1998).

The main focus of this study is to examine determinants of CEO compensation among selected variables for the hotel, casino, and restaurant sectors of the hospitality industry using multiple regression analysis.
A sample of 22 hotels (SIC 7011); 25 casinos (SIC 7990); and 61 restaurants (SIC 5812) were collected for analysis for each sector. Taking its cue from previous studies (Attaway, 2000; Lobingier, 2000; Joyce, 2001), this study used multiple-year observations. The final samples of the restaurant, hotel and casino sectors consisted of 53, 77, and 188 observations respectively. In order to achieve the objective of identifying determinants of compensation, this study was much concerned with selection of candidate factors that might affect hospitality CEO compensation.

Ely (1991) emphasized the importance of industry-specific variables in measuring firm performance. As such, it is important to consider different features for each sector of the hospitality industry. One problem with previous studies has been that the particular accounting measure has been predicted to be equally important for all firms in the sample, regardless of industry (Duru & Iyengar, 1999; Lobingier, 2000). Therefore, this study expanded the spectrum of financial ratios to investigate determinants of CEO compensation from a firm’s various perspectives, ranging profitability, growth, leverage, liquidity, and efficiency. In addition to eight financial variables, total assets and stock options were included as a control variable and a dummy variable, respectively.

Multiple regression analysis was applied to each sector to develop the compensation prediction model in order to identify determinants of CEO compensation. The summary of results for each sector is demonstrated below.

**Hotel**

Using backward elimination procedure, six variables from the original list of ten were incorporated into the model for the hotel sector. These identified determinants of compensation were: ATT; SR; IC; LTD; TA, and dummy. ATT; IC; TA, and dummy
were positively correlated with compensation. The result suggests that management efficiency to generate sales by using total assets, high coverage ability by ample EBITDA, and firm size positively affect CEO cash compensation in the hotel sector. And the positively significant coefficient of dummy suggests that hotel firms offering stock options tend to pay cash high cash compensation as well.

SR and LTD were negatively correlated with compensation. As expected in the hypothesis, the negative correlation between LTD and cash compensation was identified. According to Jensen (1986), debt leverage is regarded as a mechanism for controlling agency cost related to free cash flow. With high debt leverage, the default risk may deter a firm from lavishing cash on executive pay and perks.

This study did not find evidence, however, to support findings of previous studies that the firm’s market return is positively correlated with compensation. The result of negative coefficient of SR indicates hotel firms pay high cash compensations despite poor market performance of their stocks. This surprising finding was also evidenced by real examples of Trump Hotel and Host Marriott Corporation, as discussed in Chapter 4. These results indicate that a high degree of agency problem may exist within the hotel sector. Hotel CEOs may be pursuing high cash compensations to increase their own wealth, and disregarding wealth decline for hotel shareholders themselves. Therefore, serious conflicting interests between management and shareholders may exist in the hotel sector.

Since the purpose of this study is to establish a model to identify determinants of CEO cash compensation, the model’s explanatory power is important. The result demonstrated
the adjusted R Square of 0.756, which means that 75.6% of the variance in hotel CEO cash compensation is explained by six variables identified in the model.

As to the DW test, dummy variables were added in an attempt to control for the possible impact of time series on the serial residual correlation, as indicated by a DW value of 1.381, but the DW value did not increase. Therefore, autocorrelation may be a problem in the model of the hotel sector.

Casino

Using backward elimination procedure, six variables from the original list of ten were incorporated into the model for the casino sector. These identified determinants of compensation were QR; IC; ROA; ATT; TA, and dummy. Except for ATT and IC, four variables were positively correlated with compensation. The result suggests that profitability, liquidity and firm size positively affect CEO cash compensation. High sensitivity to a firm’s liquidity indicates that the more ability to pay short-term liabilities a company has, the more cash compensation is paid. This interesting empirical evidence may reflect a general tendency of high QR in the casino sector. The absence of SR in the model reveals the casino sector’s insensibility to market performance in the determination of CEO cash compensation.

As in the hotel sector, the significant coefficient of dummy suggests that casino firms offering stock options tend to pay high cash compensation, too. The surprising result that low ATT is associated with high CEO compensation was explained by recent increases in total assets in the casino sector, due to openings of many new mega casinos resorts; that is, increases in total assets outpaced total sales. While positive correlation between IC and compensation was expected, the opposing result was presented in the model.
indicating that firms with higher IC tend to give less cash compensation. This result may be explained by casino firms’ desire to maintain a high ability of servicing debt. The desire may have deterred firms from giving extravagant cash bonuses or salaries.

The overall regression results are good. The adjusted R Square of 0.727 indicates a high proportion of explained variance to the total variance of the dependent variable; that is, 72.7% of CEO cash compensation is explained by four variables identified in the model.

As to the DW test, dummy variables were added in an attempt to control for the possible impact of time series on the serial residual correlation, as indicated by a DW value of 1.459, but the DW value did not increase. Therefore, autocorrelation may be a problem in the model of the casino sector.

Restaurant

Using backward elimination procedure, three variables from the original list of ten were incorporated into the model for the restaurant sector. These identified determinants of compensation were: SR; LTD, and TA. Except for LTD, two variables were positively correlated with compensation. The result suggests that market performance and firm size positively affect CEO cash compensation in the restaurant sector. This finding is consistent with previous studies that found a positive relationship between CEO compensation and market performance and firm size. The result of negative coefficient of LTD as expected in its alternative hypothesis indicates that restaurant firms tend to pay less if firms’ capital structure relies more on borrowed funds and vice versa. High sensitivity of restaurant CEO cash compensation to debt leverage supports the finding of
the study conducted by Jensen (1986) that debt leverage is regarded to be a mechanism for controlling agency cost related to free cash flow.

The result demonstrated the adjusted R Square of 0.697, which means that 69.7% of CEO cash compensation is explained by three variables identified in the model. However, regarding the DW test to check serially correlated residuals, the value of DW was found to be comparatively low at 1.034. Dummy variables were added in an attempt to control for the possible impact of time series on the serial residual correlation; however, the DW value did not increase, suggesting autocorrelation is a problem in the model of the restaurant sector.

Implications of the Study

Based on the findings, this study offers four important implications for the hospitality industry. First, the results of regression analysis at least partially support agency theory in the hotel, casino and restaurant sectors by demonstrating that firm performance (ATT; ROA and SR respectively) is highly correlated with CEO compensation with the high-adjusted R Square of .756, .727, and .697 respectively. Compared to the adjusted R squares found in previous studies, this study shows a much higher explanatory power. Here are some examples. Ueng (2000) found the adjusted R Square of .2440 for small firms and .2132 for pooled firms. Attaway (2000) found the adjusted R Square of .2928 for the computer and electronics industry. Joyce (2001) showed the adjusted R square of .41 for publicly traded banks and savings.

Second, the negative correlation between cash compensation and LTD found in the hotel and restaurant sectors demonstrate their high sensitivity to a firm's leverage.
condition. According to Jensen (1986), debt leverage is regarded to be a mechanism for controlling agency cost related to free cash flow. With high debt leverage, the default risk may deter a firm from lavishing cash on executive pays and perks. Therefore, using debts may help in reducing agency problem by providing ample compensation in the hotel and restaurant sectors.

Third, in that the hotel sector is a fixed asset intensive industry, ATT is expected to have an impact on CEO compensation in the selection of variables because ATT measures management's efficiency of utilizing total assets including fixed assets. As expected, the hotel sector shows positively significant correlation between CEO cash compensation and management efficiency (ATT) at the .001 level; this may suggest that hotel CEOs with high cash compensation are more likely sales revenue than profit-oriented. Therefore, raising cash compensation may motivate CEOs to maximize sales revenue.

Fourth, this study found the indication of agency problem in the hotel sector by the negative coefficient of SR, illustrating that hotel firms pay high compensation despite poor market performance of their stocks. This surprising finding was also evidenced by real examples in Chapter 4. Hotel CEOs may be pursuing high cash compensation to increase their own wealth, disregarding wealth decline for hotel shareholders. There may be serious conflicting interests between management and shareholders in this sector.

Suggestions for Future Study

For future study of CEO compensation and firm performance in the hospitality industry, six points are discussed below. First, one limitation of this study is that its
Sample was drawn from a population of publicly traded firms only. Findings could differ if the sample size were expanded to include privately held companies.

Second, in addition to firm performance variables, CEO-related non-financial factors need to be included in future studies, since CEO compensation is also accounted for by non-financial factors. These may include age, job tenure, ownership, and education. By accounting for these other effects, future studies will strengthen the test of compensation study.

Third, this study did not investigate deferred forms of compensation, such as stock options and other long deferred forms of compensation. Although previous studies (Lewellen & Huntsman, 1970) have shown cash compensation an acceptable substitute for more comprehensive measures of composition, this may not be true in the hospitality industry due to changes in compensation practices. A more comprehensive measure of compensation, such as stock options, pension benefits, stock bonuses, profit sharing, and deferred pay could provide valuable insight into factors in the determination of CEO compensation.

Fourth, according to Kefgen & Mahoney (1998), there continues to be a wide disparity of composition levels for executives, depending on the type, class, size and geographical location of their hotel properties. Therefore, an analysis for hotel firms grouped by type, class, size and geographical location would provide better insight into executive compensation within the hotel sector.

Fifth, as discussed in Chapter 4, the overall sectors show somewhat high variation in terms of firm size. In particular, the restaurant sector reports that the largest is 4,921.5 times larger than the smallest. Even within the same sector, the effect of compensation
on firm performance and determinants of compensation may not indicate a consistent result according to firm size. Therefore, an analysis for firms grouped by size within the same sector could provide better insights about the effects of cash compensation on firm performance and sector-specific determinants of compensation.

Sixth, this study focuses on CEO cash compensation only. Since the hospitality industry is a labor-intensive industry, it would be interesting to expand the scope to include senior executives, and the middle and low-level managers in charge of daily operations. By expanding the scope of management level, the study could compare the impact of cash compensation of each level of managers on firm performance to see which level of management is best motivated to improve firm performance by offering compensation. Also, the study could examine whether there are differences in terms of factors in the determination of compensation by level of management.
REFERENCES


Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.


Yoonhwa Choi

Local Address:
3263 Casey Dr Apt # 203
Las Vegas, Nevada, 89120

Home Address:
Sahagu Dadaedong Hyundai Apt 107-1201
Pusan, Korea.

Degrees:
Bachelor of Science, Landscape Architecture, 1994
University of Korea, Korea

Thesis Title: Determinants of CEO Compensation in the Hospitality Industry.

Thesis Examination Committee:
Chairperson, Dr. Zheng Gu, PhD.
Committee Member, Dr. Shannon Bybee, J.D.
Committee Member, Dr. Michael Dalbor, PhD.
Graduate Faculty Representative, Cr. Michael Sullivan, PhD.