



## CEO compensation and firm performance

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### Abstract

This study investigates the relationship between CEO compensation and Firm Performance. The variables used in this study are firm performance (measured by return on assets), CEO compensation and firm size (measured by total assets). This study took nine commercial banks and data have been collected from annual financial report for the period 2013/14 to 2021/22. In order to achieve the objectives, 45 observations should be taken. Panel data are analyzed through Pooled ordinary least squared methods. In this study, there is found positive effect of CEO compensation and Firm performance whereas there is positive and insignificant effect of firm's size and Firm performance. This paper also found there is low but significant relationship between CEO compensation and ROA. Similar, there is low degree of correlation between total assets with ROA. Likewise, Com\_Ta, which serves as a proxy for firm size, Com\_Ta has an insignificant relationship with ROA.

**Keywords:** CEO compensation, firm performance, ROA, total assets, profit margin

### Introduction

Modern banking practices in Nepal have a brief history reaching starting with the establishment of Nepal Bank Limited as the country's first commercial bank in 1937 AD. The Nepalese financial system developed new dimensions with the creation of Nepal Rastra Bank as a central bank in 1956 AD. Banks are the main financial institution system in Nepal, accounting for more than 70% of all financial institutions' combined assets (Paudel, 2005) <sup>[10]</sup>. CEO compensation in the banking industry is usually structured to include various components, such as a base salary, annual bonuses, long term incentives, short term incentives and other benefits. The compensation is designed to attract and retain top talent, align CEO interests with shareholders, and motivate CEOs to perform well whereas firm performance is typically assessed using various financial metrics, including profitability, asset quality, capital adequacy, liquidity, market share, return on equity (ROE) or return on assets (ROA). Strong firm performance is essential for a bank's long term sustainability and growth. Chief Executive Officers (CEO) are essential to the everyday operations of every business.

The CEO is the highest-level executive position in a company and is chosen by the board of directors. In addition to acting as a link between the board of directors and corporate management, the CEO is in charge of developing and implementing the company's high-level strategies, corporate decision-making, operations, and resources (Ismail, Yabai, & Hahn, 2014) <sup>[5]</sup>. In every economy, the banking industry serves as a major financial intermediary. The Asian countries' 1997–1998 economic crises brought attention to the significance of corporate governance (Adnan, Htay, Rashid, & Meera, 2011) <sup>[1]</sup>. The Chief Executive Officer (CEO), who is selected by the board of directors, holds the most significant position in a corporation. The CEO must frequently act as a link between the management and the board of directors. Because their incentive programs are often based on the success of the firm, CEOs regularly take short-term actions to improve that success. They seek to increase short-term performance in relation to the current time frame by utilizing methods for

controlling earnings. Using agency theory, this behavior can be explained. Shareholders would have a long-term interest in the profitable company, as compared with CEOs who often focus on short-term rewards (Sadiq, Mohamad, & Kwong, 2019) <sup>[11]</sup>. CEO compensation is the total sum the CEO receives for doing their duties. CEOs do earn a yearly salary, but their total salary may consist of a fixed salary, performance-based bonuses, and other benefits like group insurance and paid days leave. The board of directors appoints an executive compensation committee, which decides what the CEO should be paid properly for the duties he or she accomplishes. In the context of Nepal, there is a noticeable lack of research articles exploring the relationship between CEO compensation and firm performance. While numerous articles exist on this topic in foreign contexts, the scarcity of studies in the Nepalese setting highlights a significant research gap. Thus taking this as a research gap, this study is conducted to examine into this unexplored area and contribute valuable insights into the dynamics of CEO compensation and its impact on firm performance.

### Objectives of the study

The main objective of this paper is to determine whether CEO compensation and firm size is dependent on firm's performance (as measured by ROA) of Nepalese commercial banks. The results are compared to previous studies to find out whether it provides consistent evidence that there is a strong relation between CEO compensation and firm performance. So, it helps to finding the problem and scope of the research for banking survival in the future.

- To examine the relationship between CEO compensation and Firm performance.
- To examine the relationship between Firm size and Firm performance.
- To analyze the effect of CEO compensation and firm size on firm performance.

### Limitation of the study

- The study only taking five commercial banks including Nmb bank, Global Ime bank, Laxmi bank, Sunrise bank and Nic Asia bank.
- The study takes time period from 2013/14 to 2021/22.
- The study only takes one variable to measure firm performance.

### Literature Review

The relationship between CEO pay and bank profitability has received a lot of attention recently. The study examines the 2010–2020 association between CEO pay and bank performance in Bangladesh. Return on equity, CEO compensation, bonus, housing amenities, housing allowance, and international travel are the factors included in the study. A 2SLS estimator is used in the study to take out any potential endogeneity and produce an objective conclusion. The findings strongly imply a significant and positive relationship between the CEO salary package and bank performance. A larger salary package encourages CEOs to work harder and solves the agency issue (Ahamed, 2022) <sup>[2]</sup>.

In this study to examine how CEO compensation and business performance are related. ROA, ROE, and profit margin are the metrics used to measure company performance. Ninety six businesses from a variety of Malaysian industries make up the sample data. The findings are agreed with those of earlier research. In contrast to profit margins, which also have a positive significant association but are weaker than CEO compensation, ROA and ROE have a strong positive significant link with CEO remuneration. Additionally, go over how good company governance can reduce agency conflicts between shareholders and top management (Zandi, Mohamad, Keong, & Ehsanullah, 2019) <sup>[12]</sup>.

The purpose of this study is to look into how the firm's performance and size significantly affect the compensation of the CEO. For this purpose, the firm's performance is measured using accounting-based measures including return on assets (ROA), return on equity (ROE), income before taxes (ITB), and profit margin (PM), while size is determined by total assets (TOTAST) and the number employees (NOEMP). Size and performance indicators are both employed in the linear regression model as independent variables. The dependent variable is CEO cash compensation, which includes base salary, bonus, perks, and special benefits. The results of the study suggested that there is a strong and positive association between the firm's total assets and the CEO's cash compensation, but no significant relationship was observed between the number of employees and the CEO's cash salary. Cash compensation for the chief executive officer was strongly connected with income before taxes. The number of employees and the firm's total assets has also been proven to have a significant and strong connection, suggesting that as the firm's total assets rise, it also increases its employee numbers (Iqbal, Khan, & Ali, 2012) <sup>[4]</sup>.

CEO compensation packages have been regarded as essential in reducing the conflict of interest between corporate managers and shareholders. It is generally acknowledged that compensation plans may be a significant factor in top managers' motivation. Therefore, it's crucial to understand how businesses determine CEO compensation packages and whether there's a correlation between pay and

success. Using a sample of 390 UK non-financial companies from the FTSE Allshare index for the years 1999 to 2005, this research presents new empirical evidence on the relationship between CEO compensation and performance controlling a comprehensive set of corporate governance procedures. According to the findings, CEO cash remuneration and performance are positively and significantly correlated, whereas overall compensation and performance are not (Ozkan, 2011) <sup>[9]</sup>.

CEO compensation has received a lot of recent media and public attention. In a wide range of industries, the relationship between CEO salary and several metrics of firm success is examined in this study. The analysis made use of a database of CEO pay for 200 sizable public businesses that submitted 2007 proxy statements to the SEC. Base salary, cash bonuses, incentives, stock awards, and choice awards make up the total CEO remuneration. Corporation revenue, year-over-year changes in net income, and changes in total shareholder return (TSR) were used as performance indicators for the corporation. Analyses of correlation and regression were done to examine different hypotheses. There is direct correlation between total CEO remuneration and its constituent parts and financial indicators of business performance (Jeppson, Smith, & Stone, 2009) <sup>[6]</sup>.

Every company has a significant relationship between CEO pay and firm performance, which has been the subject of many research studies and projects. As was already indicated, the majority of previous research employing CEO pay as their dependent variable and business success as their independent variable show a positive link between firm performance and CEO compensation. The dependent and independent variables are reversed in our situation, with company performance serving as the dependent and CEO remuneration providing as the independent. It is concluded from the findings that our study produced results that were comparable to those of other researchers. We examined three stages of relationship based on 100 samples of consumer product businesses from Bursa Malaysia from 2006 to 2010. First, consider the connection between CEO compensation and return on assets (ROA). The connection between CEO compensation and return on equity (ROE) follows. The connection between CEO salary and profit margin is the last point. Regression analysis and Pearson correlation were also used to test the results (Ismail, Yabai, & Hahn, 2014) <sup>[5]</sup>.

There is a high positive correlation between business size and CEO salary, according to studies on large corporations in the United States, Japan, and Britain. Additionally, they find that there is no relationship between CEO salary and firm performance. Examining executive salary for 104 New Zealand companies from 1998 to 2002 showed results that were according to earlier research. Results indicate that the typical CEO's cash pay increases by 0.39 percent for every percentage point increase in the firm's total assets. This outcome is very similar to that of other earlier research, which found that larger U.S., U.K., and Japanese enterprises have firm-size elasticity in the range of 0.2 to 0.35. The result additionally shows the CEO's firm-size flexibility (Lau & Vos, 2004) <sup>[8]</sup>.

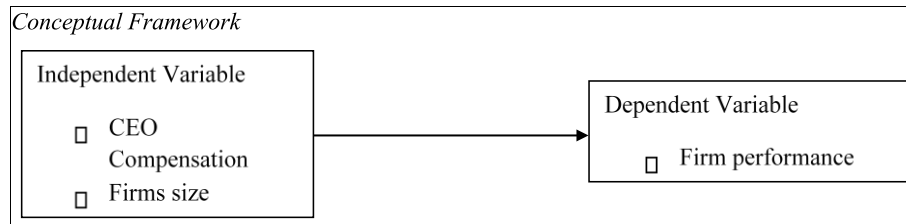
In Japan, this research presents the first econometric estimations of the payperformance linkages for CEO cash compensation. In order to achieve this, it used special 10-year panel data on the monthly base salaries of individual CEOs and the total annual cash pay (comprising base salary

and bonus) of 51 Japanese companies. Compensation and ROA is a common financial measure of firm profitability, have been found to have the strongest pay-performance relationship for Japanese CEO Salary. For all criteria, researchers found a strong and positive association between CEO compensation and ROA (Kato & Kubo, 2006) [7]. The relationship between executive salary and business performance in the Nepalese banking sector is the subject of this study, which is the first of its kind. From the study period of 2014–15 to 2020–21, data are gathered from 21 commercial banks. Three control variables—namely, leverage, size, and risk—are used to analyze panel data using a fixed effect model and pooled OLS. In Nepalese

commercial banks, the findings indicated that executive salary is unaffected by firm performance. The results also showed that the size of the firms has no impact on the link between salary and performance (Gyawali, 2023) [3].

**Conceptual Framework**

The conceptual framework of CEO compensation and firm performance explores the relationship between the pay packages of chief executive officers (CEOs) and the performance of the companies they lead. It attempts to understand the factors influencing executive compensation and how those incentives affect the financial and operational outcomes of the organization. This framework includes:



Source: (Zandi, Mohamad, Keong, & Ehsanullah, 2019) [12] and (Lau & Vos, 2004) [8]

Fig 1

**Research Hypothesis**

Based on the conceptual framework, this study proposed the following hypothesis:

**H1:** There is significant relationship between CEO Compensation and Firm Performance.

**H2:** There is significant relationship between Firms size and Firm Performance.

**H3:** There is significant effect of CEO compensation on firm performance.

**H4:** There is significant effect of firm size on firm performance.

**Research Methodology**

The descriptive and causal research design is employed in this study to address concerns related to profitability linked with commercial banks operating in Nepal.

Causal research design is used to determine the relationship between CEO compensation, firm size and firm performance. According to NRB, there are 21 commercial banks in Nepal, however only five of them will taken namely Nmb Bank, Global Ime Bank, Laxmi Bank, Sunrise Bank and Nic Asia Bank were chosen to samples. As a result, total 45 observations from five commercials banks were used for the analysis, over nine years from 2013/14 to 2021/22. The study is based on secondary sources of data and the data has been taken from the annual financial reports.

**Model**

The regression model will used to investigate the effect of independent variables on dependent variable. The model specification for this study is as follows:

$$ROA_{it} = \alpha_{it} + \beta_1 \ln com_{it} + \beta_2 TA_{it} + \beta_3 com * TA_{it} + e_{it}$$

Where,

I= Entity

T= Time period

ROA = Return on Assets

Lncom = Logarithm of Compensation TA = Total Assets  $\beta$  = Beta Coefficient  $\alpha$  = Constant  $e$  = Error term

**Findings**

**Descriptive Statistics**

Descriptive statistics, in short, help to describe and understand the feature of a specific data set by giving short summaries about the sample and measures of the data. The most recognizes types of descriptive statistics are measure of center: the mean, median and mode, while measures of validity the standard deviation, variance, and the minimum and maximum variables. This study has analyzed the CEO compensation and Firm performance. For this purpose descriptive statistics i.e. mean, median, maximum, minimum, standard deviation and normality (value) of sample commercial banks is obtained using Eviews 12 software. The result of descriptive statistics is presented in table 1.

Table 1: Descriptive Statistics

	Mean	Median	Max	Min	S.D
Roa	0.013062	0.013300	0.018200	0.001600	0.003316
Logcom	7.139317	7.173565	7.567250	6.511883	0.196013
Ta	11.33E+11	1.07E+11	3.61E+11	6.03E+09	9.44E+10
Com_Ta	2.04E+18	1.40E+18	6.28E+18	7.44E+16	1.69E+18

Table 1 shows the descriptive statistics of dependent and independent variables. The results explained the dependent variables i.e. ROA (Return on Asset). The mean value of dependent variable is 0.013062 and the median is 0.013300. Return on assets (ROA) ranges from minimum 0.001600 to maximum 0.018200. Its standard deviation is 0.003316.

Furthermore, table 1 also demonstrates wide range of Independent variables i.e. CEO compensation and Firms size. The mean value of CEO compensation and Total assets are 7.139317 and 11.33E+11 respectively. The median values of independent variables are 7.173565 and 1.07E+11 respectively. The maximum and minimum value of CEO

compensation ranges from 7.567250 to 6.511883 and its standard deviation is 0.196013 whereas the maximum and minimum value of total assets ranges from 3.61E+11 to 3.06E+09 and its standard deviation is 9.44E+10.

**Table 2:** Correlation Analysis

Correlation Probability	Roa	Logcom	Ta	Com_Ta
Roa	1.0000 -			
Logcom	0.3721* (0.0118)	1.0000 -		
Ta	-0.1853 (0.2227)	-0.0825 (0.5897)	1.0000 -	
Com_Ta	0.0376 (0.8060)	0.5768** (0.0000)	0.7166 (0.0000)	1.0000 -

Table 2 shows the result of correlation analysis. The correlation between ROA and Logcom is 0.3721 implying low degree of positive correlation between them. This means logcom have low impact on return on assets. Similarly, the correlation between ROA and TA is -0.1853 implying low degree of negative correlation between them. Likewise, ROA and COM\_TA have correlation of 0.0376 implying low degree of positive correlation.

**Model Estimation**

The POLS method was used to analyze the result of the panel data. The POLS method of analysis was found to be appropriate as the p-value of Breusch Pagan LM test is 0.8730 which is greater than 0.05, supporting null hypothesis POLS is better than fixed or Random effect model which is depicted by the following table.

Null Hypothesis: Pool is appropriate than Fixed or Random effect model.

**Table 3:** Lagrange Multiplier Tests for Random Effect

Cross Section	Time	Both
0.025542	0.242594	0.268136
(0.8730)	(0.6223)	(0.6046)

Note: Number in the parentheses indicate p- value

**Regression Analysis**

Regression analysis is a statistical measure that attempts to determine the strength of the relationship between one dependent variable (Y) and one or more series of other changing variables known as independent variables (X). For this research, we will study on the dependent variable, which is Firm performance and the independent variable, CEO compensation and firms size (as measured by total assets). For this analysis, we will be using Eviews 12 software to analyze our regression model. Table 4 shows the result of regression analysis that will be test the hypothesis.

**Table 4:** Regression Analysis of pooled ordinary least square methods

Variable	Coefficient	Std.Error	t-statistic	Prob.
Logcom	0.014021	0.005863	2.391588	0.0214
Ta	1.43E-14	1.43E-14	1.006395	0.3201
Com_Ta	-1.43E-21	9.69E-22	-1.480660	0.1463
C	-0.086024	0.041707	-2.062588	0.0455
R- square	0.2050			
Adjusted R-squared	0.1469			
F- statistic	3.5249			
Prob(F-statistic)	0.0231			
Durbin-Watson	2.1375			

Table 4 present the regression analysis of CEO compensation and Firm performance. The value of R<sup>2</sup> and Adjusted R- squared are 0.2050 and 0.1469 respectively. R<sup>2</sup> indicates that 20.50% of the variation in firm performance can be explained by the independent variables taken in this study.

Logcom is statistically significant at 5% level of significance with firm performance as p-value is less than 0.05. Similarly, TA and Com\_Ta have positive and insignificant relationship with firm performance as p- value is greater than 5% level of significance.

Logcom has positive beta coefficient of 0.014021 it means each one unit increase in Logcom leads to increase firm performance by 0.14021. Ta has positive beta coefficient of 1.43E-14 it means each one unit increase in Ta leads to increase firm performance by 1.43E-14. Com\_Ta has negative beta coefficient of 1.43E-21 it means each one unit increase in Com\_Ta leads to decrease firm performance.

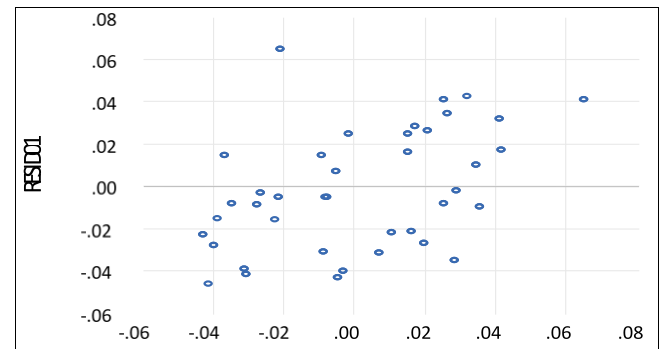
The result shows that the significance value of F-statistics (F= 0.0231, sig= 0.05) which implies that the model is significant at 5% level of significance.

**Normality Test**

Jarque- Bera normality test is used to test the normality of the residuals. The normality test of residual suggests the residual are found to be normally distributed.

**Autocorrelation**

Autocorrelation refers to the statistical relationship between a time series data and its lagged versions (past values). In other words, it measures the degree of similarity between data points in a series at different time lags. Autocorrelation is essential in time series analysis and plays a significant role in understanding the underlying patterns and dependencies in the data.



**Fig 2:** Test of Autocorrelation

Figure 2 shows the test result of autocorrelation. The error term is found to be not correlated with the previous error term.

**Heteroskedasticity**

Heteroskedasticity is a statistical term that refers to the situation where the variance of the errors (or residuals) in a regression model is not constant across all levels of the independent variables. In simple terms, it means that the spread of the residuals changes as the values of the predictor variables change. This violation of the assumption of constant variance can lead to biased and inefficient estimates in regression analysis. To formally test for

Heteroskedasticity, one common method is the Breusch-Pagan test (also known as the White test or the Breusch-Pagan-Godfrey test). The test is based on regressing the squared residuals from the original regression model on the independent variables and possibly other relevant variables.

**Table 5:** Panel Cross- section Heteroskedasticity LR Test. Null Hypothesis: Residuals are homoskedastic.

	Value	df	Probability
Likelihood ratio	12.13800	5	0.0729

Table 5 shows the result of test of heteroskedasticity, and the p value of 0.0729 indicates the error term is homoskedastic.

### Conclusion

This study is conducted to examine the relationship between CEO compensation and firm performance. For this purpose, data have been taken from the annual financial reports of five commercial banks for the period of 2013/14 to 2021/22. The variable used to represent the firm performance is measured by Return on Assets (ROA) and independent variable is measured by CEO compensation and Firms size. CEO compensation is low degree of correlation with ROA and it is significant. Similarly, there is low degree of relationship between Total assets with ROA and significant. Likewise, Com\_Ta as proxy of firm size has very weak correlation with ROA but insignificant. CEO compensation significantly influences firm performance, with higher compensation associated with Return on Assets (ROA). Firm size, measured by total assets, has positive but insignificant relationship with ROA, suggesting larger banks may be more efficient. However, the relationship between firm size and firm performance is insignificant, suggesting that specific measures of firm size relative to total assets may not significantly impact performance. Further research is needed to generalize findings to broader banks or explore additional factors impacting firm performance.

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