

Does Risk-taking Moderates Relationship between CEO Compensation and Firm' Performance?

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Trend of pay for performance has increased since last few years but still it is a controversial argument if CEO compensation actually increases the firm performance. Prior studies argue that performance based CEO compensation increase the potential risk of the firm, which could further affect the long-term firm negatively. This study attempts to illustrate the impact of CEO compensation on firm performance along with the moderating role of risk-taking among these variables. Using hierarchical linear regression, the results shows the significant negative impact of CEO compensation on operating performance which could be due to the high managerial power, cronyism, rent extraction or weak corporate governance. Nevertheless, the study revealed significant positive impact of CEO compensation on market performance but solely this determinant cannot be relied as a strong predictor of market performance due to lesser effect size of the model. Additionally, this study does not find any moderating role of risk-taking between CEO compensation and firm performance.

Keywords: CEO Compensation, Risk-taking, market performance, operating performance, cronyism

1. INTRODUCTION

The acceptance of Modern Corporation as highlighted by Berle and Means¹ marked a new era in managing business where owners do not manage the business himself but rather by hiring professional managers to do the job¹. Until today, despite of several available studies in this area, conflicts between shareholders and CEOs is controversial and a debatable issue among academicians. A cast of qualms on the CEOs integrity has been on the rise researchers observed the CEOs chasing their self-interest and rent extraction rather than fulfilling their duty in maximizing shareholders' wealth. Therefore, criticism in this perspectives can be observed through a wide range of studies²⁻³. Earlier study⁴ suggest that when there is very little or no ownership by CEOs then it will escalate agency costs and subsequently reduce the firm value. Nevertheless, Jensen and Meckling in their seminal paper proposed equity-based compensation to align the interest of CEOs with those of the shareholders⁵. Moreover, it is argued that executives try to increase the stock returns to gain their wealth if there is equity-based compensation⁶. Consequently, the behavior of rent extraction or empire building of executives would diminished and works in the best interest of shareholders to increase their wealth and his own via firm' stock performance.

Nevertheless, several doubts regarding these compensation plans has also been recognized in the studies as it is observed that executive pay arrangements were also one of the prominent cause leading to financial crises. Unfortunately, despite of paying incentives to avoid

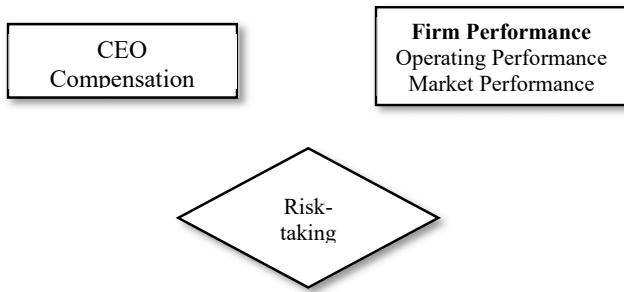
excessive risk-taking, compensation plans were designed which promote excessive risk-taking especially in financial firms. In addition, these pay plans focused enough on aligning both equity and bonus compensation with short-term shareholder value⁷.

Misalignment of executive compensation with long-term shareholder value could leads to creative risk-taking. Therefore, researchers suggested that reforming inefficient pay packages and enhancing shareholders rights by aligning long-term firm value with compensation could control this incongruous risk-taking behavior⁸. Although, there are abundance of literature regarding pay-performance sensitivity or alignment of CEO compensation with firm performance⁹⁻¹⁰, this study has opted the model (see Figure 1) proposed by Yahya and Ghazali¹¹ in their conceptual review to empirically test its validity on the financial sector of Pakistan.

Fig.1. The Moderating Role of Risk-taking between CEO Compensation and Firm Performance

2. LITERATURE REVIEW AND HYPOTHESES

Researchers questioned why CEOs are being paid even after losing the shareholder value¹². During the financial crisis of 2007 to 2008, excessive compensation of CEO was one of the central point of condemnation. Pertaining to pre and post crises, Yang, Dolar and Mo examined the effects of financial crises on the association between firm performance and CEO compensation and found a mixed results on the relationship between CEO compensation and



firm performance¹³.

Based upon agency theory and managerial power theory, Tien, Chen and Chuang revealed that CEO pay has a positive impact on international performance and return on asset, however, negative impact on the market value of the firm¹⁸. In the same lines, a previous study revealed that the firms who pay their CEOs a higher compensation also experience high operating performance as well as high returns as compared to the other firms¹⁴. In contrast, many researchers also purported that high CEO compensation induce over-confident behavior in CEOs. Over confident CEOs do not work all the time in the best interest of the shareholders rather they get involved in empire building and wasteful capital expenditures¹⁵⁻¹⁶. Consequently, Cooper, Gulen and Rau found negative relationship between CEO compensation and firm's future returns due of over confident behavior of CEOs¹⁷.

Moreover, CEOs should be paid a reasonable lucrative compensation if they also simultaneously enhance the firm's market performance. Ang, Lauterbach and Vu supported the evidence that although high quality CEOs receive a high compensation but they are also able to grow the firm's market value instantaneously²³. On the other side of the coin, Core et al. criticized excessive CEO's compensation as it is associated with negative market performance¹⁹. Align with the criticism, Barak, Cohen and Lauterbach in their study of 122 Israeli companies also revealed that CEOs having excessive remuneration effect the market value of the firm at the expense of small public investors¹⁹.

However, most studies previously conducted in the Pakistani financial sector found no relationship between CEO compensation and firm performance²⁰⁻²¹. Therefore, this study is pursuing slightly different perspective given that after the Code of Corporate Governance (2012) it is expected that the results could be quite different as compared to previous studies because they considered the data before the implication of Corporate Governance Act in Pakistan. Thus, it is hypothesized that:

H₁: CEO compensation has a positive impact on operating performance

H₂: CEO compensation has a positive impact on market performance

Different risk preferences between principal and agent are also a reason for agency conflicts²². Therefore, to

maintain their reputation and integrity in the company, most of the times CEOs avoid risky investment. Hence, to transform the risk-averse attitude of CEOs, the managerial risk-shifting hypothesis suggested that option grants in the compensation plans of CEOs could encourage them to take more acceptable risk²³. Although, these types of compensation practices intended to align the interest of shareholders with CEOs but it also comes with very high risk, which could affect the long-term performance of the firm negatively²⁴.

Additionally, it is also associated to financial or accounting fraud as executives try to justify losses with good risky projects²⁵. On that account, this study is interested to know if risk-taking could affect the relationship between CEO compensation and firm performance. Accordingly, the hypotheses are formulated in the following way:

H₃: Risk-taking moderates the relationship between CEO compensation and operating performance

H₄: Risk-taking moderates the relationship between CEO compensation and market performance

3. RESEARCH METHODOLOGY

3.1 Population and Sample

In this study, the entire financial sector of Pakistan listed in Karachi Stock Exchange in Pakistan has been taken under investigation to fulfill the study objectives. There are five major financial sectors in Pakistan, i.e. commercial banks, investment banks, insurance companies, leasing companies and Modaraba firms. Moreover, there are total 95 financial companies/banks in total which are listed in KSE but the data of only 66 companies/banks from the year 2010 to 2014 are accessible.

3.2 Definition of the Variables

Operating Performance: This study has measured operating performance through operating margin and measured through operating income divided by net sales.

Market Performance: Price to earnings ratio (P/E) has been utilized to measure the market performance. It can be calculated simply by market value of share divided by earning per share.

CEO Compensation: This variable has been measured through the total remuneration paid to CEO annually including basic salary, bonus, medical allowance, maintenance etc.

Risk-taking: Owing to firm's risk taking, systematic risk may increase³² and measure risk-taking is calculated through Beta.

3.3 Model

There are two operational models designed to accomplish the study. In first model, operating performance is criterion variable though in the second model, the dependent variable is market performance. Following are the OLS models which are formulated to test through Hierarchical Linear Regression:

$$OP_{it} = a_0 + \beta_1 CEO_{it} + \beta_2 RT_{it} + \beta_3 RTCEO_{it} + e_{it} \dots (1)$$

$$MP_{it} = a_0 + \beta_1 CEO_{it} + \beta_2 RT_{it} + \beta_3 RTCEO_{it} + e_{it} \dots (2)$$

OP_{it}= Operating Performance in time by annually data

MP_{it}= Market Performance in time by annually data

CEO_{it}= CEO compensation in time by annually data

RT_{it}= Risk-taking in time by annually data

RTCEO_{it}= Interaction for CEO comp. with risk-taking.

3.4 Descriptive

As shown in Table 1, the operating performance of financial sector in Pakistan is demonstrating negative ROS, which means that on average the financial sector is within deficit phase. Nevertheless, the market performance is positive (P/E is almost 12.17). Moreover, the average CEO compensation is almost 27 million Rs., the minimum value is 0 which means some companies have not paid any remuneration to their CEOs if the company is facing loss.

Table.1. Descriptive Statistics

	N	Min.	Max.	Mean	Std. Dev.
	Stat.	Stat.	Stat.	Stat.	Stat.
Opt. Perf.	330	-98.93	20.48	-.191	6.240
Mkt. Perf.	330	-160.15	957.35	12.165	60.836
CEO Comp.	330	.00	277516.0	26571.67	36540.09
Risk-taking	330	-2.29	5.61	.839	.840
N (listwise)	330				

Table.1. Descriptive Statistics (continue)

	N	Skewness		Kurtosis	
	Stat.	Stat.	Std. Error	Statistic	Std. Error
Opt. Perf.	330	-12.655	.134	194.514	.268
Mkt. Perf.	330	11.816	.134	179.458	.268
CEO Comp.	330	3.013	.134	12.674	.268
Risk-taking	330	.580	.134	4.584	.268
N (listwise)	330				

The last variable is risk-taking which has been measured by beta. As the value is between 0 and 1 so it can be purported that there is low-volatility in the financial sector of Pakistan. Nonetheless, the Skewness and Kurtosis columns in Table 1 exhibits that the data is not normal due to extreme values so data cleaning and validity is required before analyzing using Hierarchical Linear Regression.

3.5 Data Cleaning and Validity

A new variable has been computed by multiplying z-scores of CEO compensation and risk-taking to create the moderating variable. Owing to the negative values in the data, "POWER" function through MS Excel has been used and then through Box-Cox power transformation techniques the data has been transformed with Lambda 0.05 for all variables. Potential outliers from the data were detected through Mahalanobis distance. Although, there were 330 total observations but after excluding outliers observations were reduced in both models (N₁=286, N₂=260).

The normality of the data has been assured through histogram and autocorrelation through Durbin-Watson test.

It has been previously established that the value of Durbin-Watson close to 2 represents no autocorrelation. According to table 2 and table 3, both models indicate that the Durbin-Watson values are close to 2 (D₁=1.9, D₂=2.2). CEO compensation, risk taking and the moderating variable of risk-taking are contributing only 3.6 percent in operating performance and 5.8 percent in market performance.

Table.2. Operating Performance: Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.189 ^a	.036	.026	.09382	1.901

a. Predictors: (Constant), CEO Risk, Risk-taking, CEO Comp.

b. Dependent Variable: Operating Performance

Table.3. Market Performance: Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.242 ^a	.058	.047	.10098	2.154

a. Predictors: (Constant), CEO Risk, Risk-taking, CEO Comp.

b. Dependent Variable: Market Performance

Significance of the models and linearity has been validated through ANOVA tables; F₁ (3, 282) = 3.486, p=0.016 and F₂ (3, 256), p=0.001. In addition, VIF and tolerance values are taken under consideration to find any issue of Multicollinearity. VIF values for both models are below 10 and tolerance values are about 0.1 so it can be validated that there is no issue of Multicollinearity among the variables (see 4 and 5) 3.6 percent in operating performance and 5.8 percent in market performance.

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4. RESULTS AND DISCUSSION

Table 4 exhibits significant negative impact of CEO compensation on operating performance (β₁= -2.634, p= 0.001). However, risk taking has no impact on operating performance (β₂=0.028, p=0.706) and it does not moderates the relationship between CEO compensation and operating performance (β₃=0.019, p=0.799). Consequently, the results accept H₁ but reject H₃. Table 5 illustrates the coefficients for second model in which criterion variable is market performance. The table reveals that there is significant positive impact of CEO compensation on market performance (β₁=2.102, p=0.024).

Table 4. Operating Performance: Coefficients^a

Model 1	Unstandardized Coefficients		Std. Coef.	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	3.795	.900		4.215	.000		
CEO Comp.	-2.634	.821	-.194	-3.207	.001	.933	1.072
Risk-taking	.028	.074	.023	.377	.706	.934	1.070
RTCEO	.019	.074	.015	.254	.799	.978	1.023

a. Dependent Variable: Operating Performance

Table 5. Market Performance: Coefficients^a

Model 1	Unstandardized Coefficients		Std. Coef.	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	-.897	1.017		-.882	.378		
CEO Comp.	2.102	.927	.142	2.268	.024	.942	1.061
Risk-taking	-.342	.101	-.209	-3.385	.001	.962	1.040
RTCEO	.100	.090	.069	1.120	.264	.972	1.029

a. Dependent Variable: Market Performance

In addition, inconsistent with prior model, risk-taking has a significant negative impact on market performance ($\beta_2 = -0.0342$, $p = 0.001$). Nevertheless, this model also does not find any moderating effect of risk-taking between CEO compensation and market performance ($\beta_3 = 0.100$, $p = 0.972$). Therefore, H_2 has been accepted but the results reject the H_4 .

As there is negative impact of CEO compensation on operating performance so there is an indication of agency conflicts in financial sector of Pakistan. Previously, Core et al. also found that there is negative relationship between CEO compensation and firm performance¹⁹. Their reason for that inverse relationship was weaker corporate governance. Nonetheless, corporate governance structures in Pakistan has been improved after the implications of SECP's revised Code of Corporate Governance (2012) as most of the studies found positive impact of corporate governance on firm performance in Pakistan³³. However, these results put a question mark on the efficiency of the code.

Reason for the negative impact of operating performance cannot be fully authenticated. However, a previous study revealed that the negative association between CEO compensation and firm performance could be due to cronyism by directors and CEOs³⁴. Younas, Mehmood, Ilyas and Bajwa also purported that firm performance is negatively associated to CEO compensation in Pakistani firms which holds managerial power theory³⁵. Therefore, it can be assumed that the issue of managerial power and rent extraction persists in financial sector of Pakistan and CEOs could have substantial influence over setting their remuneration.

Although there is a negative impact of CEO compensation on operating performance but the results reveal positive impact of CEO compensation on firm performance. This outcome is consistent with the results of Deysel and Kruger²⁴. Nevertheless, the effect size of the model is much lower so the increase in market performance of financial sector in Pakistan cannot be solely relied on this predictor. Market performance and equity returns fluctuates with unobservable and exogenous economic events so CEO's decisions are less effective in this case³⁶. Therefore, CEOs should be held more accountable for accounting or operating measures.

The study also discovered that risk-taking has a significant negative impact on market performance. It can be purported that poor decisions of CEOs are affecting the market performance. However, this study does not authenticates that this negative relationship is due to the greed of CEOs to increase their compensation as the results do not find any moderating role of risk-taking between CEO compensation and market performance. In addition, no moderating influence of risk-taking has been found on the relationship between CEO compensation and operating performance.

5. CONCLUSION

Immense literatures are found where researchers tried to align the CEO compensation with different accounting and market based indicators. Nevertheless, just aligning their compensation with firm performance is not enough, it should have sound effect on firm performance. Therefore, this study attempts to find the impact of CEO compensation on operating and market performance. The results revealed that there is a negative impact of CEO compensation on operating performance which is supporting managerial power hypothesis in this perspective. Nevertheless, this inverse relation could be due to many reasons, e.g. cronyism, rent extraction or weak corporate governance.

On the other hand, positive significant impact of CEO compensation on market performance has been found. Owing to the weak effect size of the model, the positive trend in market performance cannot be relied exclusively on CEO compensation as there could be many other exogenous factors that are determining the market performance. Therefore, it is recommended that futuristic researchers should also consider different control variables (corporate governance mechanisms, economic variables etc.) to improve the model's goodness of fit. The model also demonstrated that there is a negative significant effect of risk-taking on market performance. Usually, it is observed that efficient risk-taking effect the performance positively though excessive and unproductive risk-taking could negatively affect the performance. However, it is not clear that negative impact of risk-taking on market performance is owing to the CEOs' gluttony to enhance their incentives by taking excessive risk as the study do not find any moderating role of risk-taking between CEO

compensation and firm performance (operating and market performance). It is recommended that there is a need of further study on this perspective which could be conducted on different markets and different sectors.

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