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Does the CEO's Payment Increase Shareholder Return in S&P 500 Companies?

Abstract. *CEO compensation remains at the forefront of corporate financial discourse – primarily because of its interconnection with firm performance, growth and survivability. Diverse literature exists on CEO compensation and shareholder return, albeit with different findings and/or disagreements. This paper aims to apply a single independent variable enquiry – the CEO total payment to understand how it might influence shareholder return. Research employs a quantitative approach by using a simple OLS technique with data drawn from a random sample of fifty-six companies listed in the S&P 500 Index. The S&P 500 is a stock market index tracking the stock performance of 500 large companies listed on stock exchanges in the United States. It is one of the most commonly followed equity indices. The OLS result yields a P-value of 0.0001, with a negative regression coefficient, which thus indicates a significant negative relationship between the CEO total payment and shareholder return. The result corroborates some extant research regarding the inability of agency theory to provide an overriding explanation for the CEO pay and return relationship. Further research is therefore encouraged to apply more variables, particularly those that may capture CEO's opportunistic behaviour in future CEO and stock return analysis.*

Keywords: *CEO compensation, stock return, agency theory, firm performance, companies of S&P 500 Index.*

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Чи підвищує оплата генерального директора дохід акціонерів у компаніях індексу S&P 500?

Анотація. *Заробітна плата генерального директора залишається на передньому краї корпоративного фінансового дискурсу – насамперед через її взаємозв'язок з результатами діяльності компанії, зростанням і виживанням бізнесу. Існує багато різноманітних досліджень на тему винагороди генерального директора та прибутку акціонерів, однак, з різними висновками та/або розбіжностями в отриманих результатах. Ця стаття має на меті застосувати єдину незалежну змінну – загальну заробітну плату генерального директора, щоб зрозуміти, як це може вплинути на прибутки акціонерів. У цьому дослідженні використовується кількісний підхід із використанням простої регресії найменших квадратів (OLS) та даних, отриманих методом випадкової вибірки п'ятдесяти шести компаній, які входять до списку S&P 500. S&P 500 – це індекс фондового ринку, який відстежує показники акцій 500 великих компаній, які котируються на фондових біржах Сполучених Штатів. Це один із найбільш часто використовуваних індексів акцій. Результат регресії найменших квадратів дає P-значення 0,0001 з негативним коефіцієнтом регресії, що, таким чином, вказує на значний негативний зв'язок між загальною заробітною платою генерального директора та прибутком акціонерів. Результати цього дослідження підтверджують висновки деяких попередніх досліджень щодо неспроможності агентської теорії надати переважне пояснення відносин між заробітною платою генерального директора та прибутком акціонерів. Зважаючи на варіативність результатів, отриманих різними дослідниками, рекомендується проводити подальші дослідження із застосуванням більшої кількості змінних, особливо тих, які можуть відобразити опортуністичну поведінку генерального директора в майбутньому та поглибити аналіз доходності акцій.*

Ключові слова: *заробітна плата генерального директора, прибутковість акцій, агентська теорія, ефективність компанії, компанії індексу S&P 500.*

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INTRODUCTION

CEO compensation remains at the forefront of corporate financial discourse – primarily because of its interconnection with firm performance, growth and survivability. Some scholars argue that CEO compensation occupies the centre stage among factors responsible for corporate financial crises (Yao & Magnan, 2009). This paper inclines on a somewhat controversial problem of agency raised by scholarly empirical studies, which includes, among other things, Jensen and Murphy (1990). Amongst other views, they highlight particularly as follows:

"*In our view, agency theory does not provide a relevant and reliable underlying theory for executive compensation. Moreover, it fails to make explicit predictions of CEO compensation. We conclude by calling for a novel and contextually richer approach to understanding CEO compensation determination and consequences*" (Yao & Magnan, 2009, p.1).

This view is further accentuated by Amar-Sabbah and Batteau (2018, p.1), wherein they opine that "….*We assert the complete inadequacy of the agency and asymmetry of information models for explaining CEO compensation*".

These scholarly views substantiate the unresolved problem inherent in agency theory's prediction of CEO pay and shareholders' interests. This thus emphasizes the dire need for continuous research of diverse settings to keep the trajectory of inquisitions seeking to understand how CEOs' pay may impact shareholders' returns. This line of research possesses indubitable importance because, albeit the stakeholders' theory's significant inroads in balancing corporate responsibility, shareholders remain paramount within the economic cycle of wealth creation and distribution. It also becomes a somewhat mirage expectation if shareholders' motivation via revenue return is trampled. It should be noted that without capital providers, the need for CEOs (the agents) might virtually wane except in CEOs personally owned businesses. Accordingly, a continuous search for scenarios that may accommodate shareholders' interest within the CEO growing wealth maximization penchant is a *sine qua non* for bolstering future capital and business growth and for bringing more light in accounting and finance governance research.

This paper aims to apply a single independent variable enquiry – the CEO total pay to understand how it might influence shareholder return. The author believes that a simplistic approach might bring a new light of contribution amongst many extant complex existing approaches, yet with contrasting findings. It thus draws its sample from the S&P500 – an index that contains huge companies that emphasize and practice significant CEO payment to examine if this setting provides a unique return to shareholders.

LITERATURE REVIEW

Diverse literature exists on CEO compensation and shareholder return, albeit with different findings and/or disagreements (Jeppson, Smith & Stone, 2009). Whilst some scholars opine that CEO compensation relates positively to shareholder return (Banker et al., 2013; Conyon & He, 2012), other scholars find opposing results of a negative relationship (Jeppson, Smith & Stone, 2009; Bebchuk et al., 2011; Bugeja et al., 2016), yet others find no relationship between CEO compensation and shareholder return (Veliyath & Bishop, 1995; Bradley, 2013). These diversities have meant that some scholarly research on CEO compensation and shareholder return tilt toward the corroboration of agency theory, while others find no support for agency theory, rather some prior research findings elevate agency problems (Veliyath & Bishop, 1995; Bebchuk et al. (2011). Despite divergent debates and findings from empirical studies, there are strongly held beliefs that CEO compensation constitutes a significant catalyst to the tension in corporate governance, corporate performance, and different degrees of corporate financial crises and/or failure. Furthermore, other researchers find that CEO compensation is rather biased to the benefit of CEOs at the expense of shareholders' return (Newman & Mozes, 1999).

Negative Relationship Findings

Balafas and Florackis (2014) examined the effect of CEO compensation on future returns to shareholders. They aimed to determine if organizations that give their CEOs excessive compensation (compared to comparable organizations in the same sector and size group) provide superior operating results and future returns. Their analysis, which separates the cash-based and incentive/equity-based elements of CEO compensation, was based on data from a sample of UK-listed companies from 1998 to 2010. Balafas and Florackis's (2014) analysis discovered that CEO incentive pay correlates poorly with immediate after-tax returns. Their findings also show that companies with lower CEOs incentive pay have better shareholder returns than those at the top of the distribution of incentive pay. Their further investigation suggests that the overexposure of low-incentive-pay enterprises to idiosyncratic risk can be used to partially explain the such increase in performance. Their final analysis, which applied a panel regression, shows that incentive payment to CEOs negatively affects both shareholder returns and operating measures of performance. A related study by Jeppson et al. (2009) sought to evaluate the effect of CEO compensation on various aspects of firm performance, including stock return; they drew research data from the database of corporate CEOs' compensation covering 200 large firms that submitted their proxy statements to the SEC for the year 2007. Their regression and correlation analysis revealed a lack of significant relationship between the CEOs compensation and total stock or shareholder return. The Jeppson et al. (2009) study also revealed no significant relationship between CEOs compensation and the firm's net income. Consistent with these results, Bebchuk et al. (2011) found that, after controlling for relevant standard controls, CEO compensation has a negative association with corporate value when proxied by industry-adjusted Tobin's q. In addition, their findings confirm that higher CEO elevates agency problems. Other researchers, such as Bugeja et al. (2016), also confirm that excess CEO compensation may negatively affect firm performance, namely return on assets. However, their research differs from others as they relate gender diversity with the extent of the negative association – indicating that a lesser gender mixed board is more likely to experience a negative CEO pay with firm performance.

Positive Relationship Findings

Banker et al. (2013) found a positive interaction between CEO compensation and firm performance. However, they warn that their results indicate the importance of separating cash-based compensation into two constituents, namely the salary component and bonus genre – doing this will enhance a better understanding of the extent to which incentives and performance correlate. In a closely related research, Conyon (2012) used China's data on CEO compensation and found that

CEO compensation positively correlates with the stock market and accounting performance of the firms studied. Elsayed and Elbardan (2018) find significant evidence that CEO compensation is related to firm performance.

Despite the initial positive relationship findings, some other researchers found no relationship. For instance, Bradley (2013) examined the extent of the relationship between chief executive officers' compensation earnings per shareholder in the forty largest South African listed companies; their econometric analysis indicates no relationship between the compensation of chief executive officers and the performance of the sample of companies. Similarly, related research by Veliyath and Bishop (1995) found no significant relationship between CEO cash compensation, stock option and the market return (including earnings performance).

The previous literature displays the extent of disparity in extant empirical research regarding the interaction between CEO compensation and shareholder return. The divergent conclusions thus far provide the impetus for continuous research that applies different data scenario and methods to this important accounting and finance inquiry.

RESEARCH METHOD

This section uses data from the S&P500 companies to analyse the relationship between CEO compensation and shareholder return. Given that previous researchers have applied complex linear analysis with yet contradictory findings, this paper applies an OLS method with a single independent variable (CEO total pay) and a single dependent variable (one-year total shareholder return) with other factors being held constant to examine if CEOs' total pay does influence the total shareholder return. Thus the simple

$$\check{Y} = \beta_0 + \beta_1 X_1 + \varepsilon$$

Where: $\check{Y}$ = total shareholder return; β_0 = model intercept; β_1= regression coefficient; X_1= CEO total pay, and ε = error term representing unaccounted variables.

RESULTS

Table 1 presents a p-value of 0,00001, which indicates that total CEO pay (TCEOP) is negatively associated with one-year shareholder return (SHR) within a sample of fifty-six S&M500 companies. This finding concurs with previous research findings (Bebchuk et al., 2011; Bugeja et al., 2016).

Table 1. **Results of the Relationship between Total COE Pay and Share Holder Return**

Model 1: OLS, using observations 1-56
Dependent variable: SHR

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	24,0308	2,00325	11,9959	<0,00001	***
TCEOP	-0,126256	0,041153	-3,0680	0,00337	***

Mean dependent var	19,67857	S.D. dependent var	11,36519
Sum squared resid	6049,722	S.E. of regression	10,58451
R-squared	0,148432	Adjusted R-squared	0,132662
F(1, 54)	9,412434	P-value(F)	0,003366
Log-likelihood	-210,5682	Akaike criterion	425,1364
Schwarz criterion	429,1871	Hannan-Quinn	426,7069

Test for normality of residual -
Null hypothesis: error is normally distributed
Test statistic: Chi-square(2) = 5,22094
with p-value = 0,0735

Breusch-Pagan test for heteroskedasticity -
Null hypothesis: heteroskedasticity not present
Test statistic: LM = 0,151757
with p-value = P(Chi-Square(1) > 0,151757) = 0,696862

Figure 1 presents a normal Q–Q plot, which compares the randomly generated, standard normal data on the vertical axis of the Q–Q plot to a standard normal research population on the figure's horizontal axis. It clearly shows that the close linearity of the plotted points suggests that the research data are normally distributed, albeit with few outliers. Thus, Figure 1 provides further substantiation to the normality test in Table 1 with a P-value of o.0735, which therefore accepts the null hypothesis that the error is normally distributed. The normality of the data, therefore, attests to the reliability of the data (Kim & Park, 2019) and the validity of the results (Gerald, 2018). In the same vein, the P-value of 0,696862 arising from the heteroskedasticity test suggests the absence of heteroskedasticity and the presence of homogeneity, which thus provides validity of the statistical test (Nimon, 2012; Johnston, 1972).

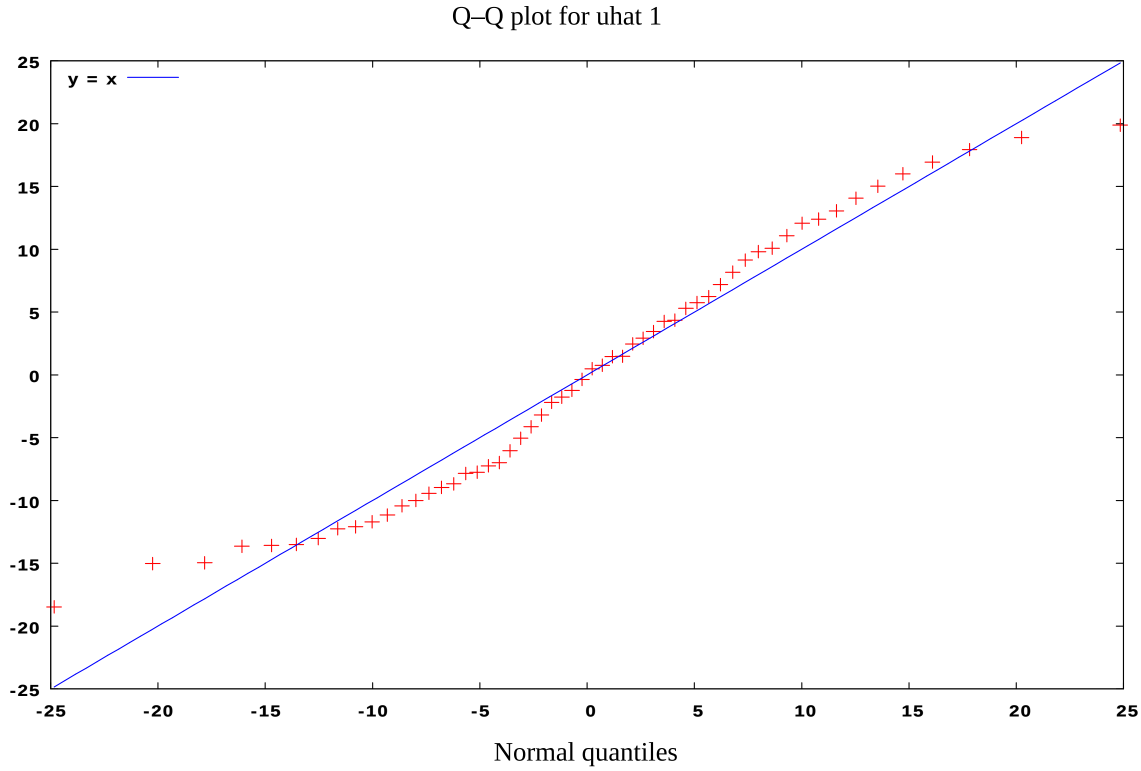

Figure 1. **Q–Q plot**

CONCLUSIONS

The objective of this paper was to provide additional evidence to contribute to diverse existing research finding about the interaction between CEOs' payment and shareholder return. The literature shows different findings indicating positive, negative, and lack of relationships. However, this research finding corroborates some empirical research results, indicating that increased CEO payments may not necessarily enhance shareholder returns (Bebchuk et al., 2011; Bugeja et al., 2016). This is why some researchers have indicated that increased CEO pay may aggravate the agency problem (Bebchuk & Fried, 2003) rather than the expected resolution of the agency problem, which is the crux of agency theory. Hence, some scholars have suggested avoiding excessive CEO payment as this may likely catalyse opportunistic behaviour, which contradicts shareholder expectations (Mehran, 1995). Our results corroborate some extant research regarding agency theory's failure to explain the CEO pay and return relationship. Further research is therefore encouraged to apply more variables, particularly those that may capture CEO's opportunistic behaviour in future CEO and stock return analysis. Future research should also consider more companies within the S&P 500 to expand the sample.

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