Executive Compensation Structure and Firm Value: An Analysis of Cash vs. Equity-Based Pay: An Empirical Analysis Based on the Technology Industry

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Abstract. This paper investigates the impact of executive compensation structure (cash-based versus equity-based compensation) on corporate value, with a specific focus on the high-tech industry. Utilizing financial data from four listed companies (AAPL, DELL, HPQ, and SMCI) between 2019 and 2023, the study employs Tobin's Q as a proxy for corporate value and examines compensation effects through multiple regression analysis. The results demonstrate that equity-based compensation exerts a statistically significant positive influence on corporate value, whereas cash-based compensation shows no measurable effect. These findings suggest that long-term incentive mechanisms effectively enhance executive motivation and corporate value, while excessive reliance on cash compensation may fail to align managerial interests with shareholder objectives. Although existing literature extensively explores executive compensation, research gaps persist regarding how industry characteristics and corporate governance structures moderate incentive effectiveness. The study provides empirical evidence for optimizing executive compensation policies and highlights the need for comparative investigations into industry-specific compensation structures. This work contributes to understanding the differential impacts of compensation components in technology-driven sectors and proposes directions for future research on incentive mechanism design under varying governance frameworks.

Keywords: Executive compensation, Cash compensation, Equity compensation, Firm value, Tobin's Q.

1 Introduction

The impact of executive compensation on corporate value has long been a critical topic in corporate governance. Since Jensen and Meckling proposed agency theory, the effectiveness of executive compensation incentives has sparked extensive debate [1]. Some studies argue that higher compensation motivates executives to align decisions with shareholder interests [2], while others contend that excessive compensation, particularly cash-based rewards, may exacerbate agency problems by encouraging short-

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termism [3]. Different compensation structures exert distinct influences: cash compensation provides stability but may weaken long-term incentives, whereas equity compensation fosters enduring value creation while potentially increasing risk exposure.

Existing research extensively examines the relationship between executive compensation and corporate value, yet significant gaps remain. First, the moderating role of industry characteristics in compensation effectiveness is underexplored, particularly in high-tech sectors where incentive structures may differ substantially from traditional industries. Second, most studies focus on aggregate compensation levels rather than analyzing how compensation composition (cash versus equity) influences long-term value creation. Additionally, systematic empirical analyses of how corporate governance and market conditions moderate incentive effects are notably lacking.

This study investigates how executive compensation structures (cash versus equity) affect corporate value within the high-tech industry. Utilizing Tobin's Q as a corporate value proxy and financial data from four listed firms (AAPL, DELL, HPQ, and SMCI) spanning 2019-2023, multiple regression analysis reveals that equity-based compensation significantly enhances corporate value, while cash-based compensation demonstrates negligible impact. These findings suggest that long-term incentives effectively align managerial efforts with corporate objectives, whereas excessive reliance on cash compensation fails to reconcile executive-shareholder interests.

The study contributes both theoretically and practically. Theoretically, it enriches compensation-performance research by examining industry-specific effectiveness of incentive structures, offering new perspectives for future studies. Practically, the empirical evidence supports optimizing compensation policies to emphasize long-term incentives, thereby enhancing executive motivation and sustainable value creation. This work advances understanding of compensation mechanisms in technology-driven industries and provides actionable insights for governance improvement.

2 Literature Review

2.1 Executive Compensation and Corporate Value

The relationship between executive compensation and corporate value has long been a central research topic in corporate governance and financial management. Jensen and Meckling's agency theory posits that executives, as corporate "agents," may pursue goals misaligned with shareholder interests, necessitating incentive mechanisms to motivate value creation [1]. Murphy further argues that well-structured compensation can reduce agency costs by aligning managerial decisions with long-term corporate objectives [2]. However, Bebchuk and Fried's managerial power theory highlights that executives may exploit their influence on secure excessive pay, undermining incentive effectiveness [3].

Recent empirical research indicates that different types of compensation incentives have distinct effects on corporate strategy and risk-taking behavior. For instance, Sun and Zhou found that a higher proportion of cash-based pay tends to lead management to focus on short-term performance, often at the expense of long-term investments and

innovation, which may ultimately undermine a firm's sustainability [4]. In contrast, Aggarwal and Wu showed that equity-based incentives—particularly vesting stock options—can help align managerial interests with those of shareholders, thereby enhancing corporate value [5]; however, excessive equity incentives may also encourage managers to assume excessive risk, jeopardizing the firm's stability. Together, these findings underscore the importance of balancing short-term performance incentives with long-term strategic objectives when designing executive compensation packages.

2.2 Impact of Cash Compensation

Recent studies have shown that cash-based executive compensation, such as fixed salaries and annual bonuses, tends to enhance short-term performance metrics but does not necessarily lead to improvements in long-term firm value. For instance, Zhang and Li demonstrate that while high cash incentives can boost immediate operational efficiency, they exhibit no significant relationship with long-term value creation, as measured by Tobin's Q [6]. Similarly, Wang, Chen, and Zhao provide evidence from policy shifts indicating that despite the short-term benefits of increased cash pay, such measures do not translate into sustainable enhancements in overall firm value [7]. These findings suggest that an overreliance on cash incentives may encourage management to focus excessively on short-term gains at the expense of long-term strategic growth.

2.3 Impact of Equity Compensation

Recent evidence supports the view that equity compensation plays a vital role in aligning management's actions with long-term value creation. Chen, Xu, and Wang demonstrate that in high-growth firms, equity incentives lead to significantly improved market performance over time, as reflected in enhanced measures such as Tobin's Q [8]. This suggests that when executive interests are tied to equity, strategic decisions tend to favor sustainable expansion rather than short-term gains. In addition, Li and Liu provide compelling evidence from the banking sector, showing that during periods of financial distress, equity-based incentives contribute to a firm's value resilience, helping institutions better withstand economic shocks [9]. These findings emphasize that an effective equity compensation structure not only incentivizes long-term performance but also helps mitigate risks in volatile environments.

2.4 Research Gaps and Future Directions

Despite extensive research, gaps persist. First, few studies dissect the differential impacts of compensation structures (cash vs. equity) beyond aggregate pay levels. Second, systematic analyses of industry-specific effects—particularly in high-tech sectors—remain scarce. Third, the moderating roles of governance mechanisms and market conditions require further empirical validation. Addressing these gaps, this study investigates compensation structures in high-tech firms, aiming to inform evidence-based incentive policies and advance theoretical frameworks on industry-contingent governance.

3 Method

3.1 Introduction

Executive compensation has been an issue of debate in corporate finance for decades, In the tech industry, pay structures include both cash incentives and equity incentives. As shown in Table 1, the dataset covers cash compensation, equity compensation, and Tobin's Q for four technology firms (AAPL, DELL, HPQ, and SMCI) from 2019 to 2023.

3.2 Data Collection and Research Methods

The selected firms are in the technology sector, an industry where executive compensation structures often include both cash and equity incentives. The period of 2019–2023 ensures a multi-year sample to capture trends and not year-specific aberrations. The firms were selected using availability within Compustat to ensure completeness and accuracy for regression analysis.

Three key variables are considered in this research. Cash compensation is the total bonus and executive salary combined for a particular fiscal year. Equity compensation is determined as the aggregate stock awards and option awards made to executives. Tobin's Q, as a proxy for firm value, calculated by the market value of assets divided by the replacement cost of assets [10].

A multiple regression is used to estimate the relationship between executive compensation and firm value. This method the quantification of the individual effects of cash and equity compensation, with controls for firm and time otherness. The model for this study is provided by the following:

This study examines the effect of executive compensation on firm value using an analysis of key variables. Tobin's Q is used as the dependent variable and utilized to measure firm value that reflects investor expectations and confidence in future growth. Cash compensation (fixed salary and bonus) and equity compensation (stock grants and options) are the independent variables.

Table 1. Presents the summary of the dataset

Ticker Symbol	Data Year - Fiscal	Cash Compensation ($)	Equity Compensation ($)	Tobin's Q
AAPL	2019	1000	21633.416	3.67243961
AAPL	2020	1000	21657.687	6.868509865
AAPL	2021	1000	21959.62	7.442414057
AAPL	2022	1000	22132.015	7.102562217
AAPL	2023	1000	22323.641	8.374660559
DELL	2019	732.692	5354.646	1.318103583
DELL	2020	750	5241.221	1.424641818
DELL	2021	790.385	8393.267	1.481912654
DELL	2022	873.077	4298.891	1.359396949

DELL	2023	425	578.592	1.741078585
HPQ	2019	690	3427.818	1.792230526
HPQ	2020	764.166	4176.858	1.739497965
HPQ	2021	914.445	4402.032	1.900714262
HPQ	2022	780	5409.75	1.78165381
HPQ	2023	820	5648.212	1.732451358
SMCI	2019	420.36	0	1.015234572
SMCI	2020	824.921	0	1.220129982
SMCI	2021	307.983	426.5	1.304755009

(Data Source: Compustat)

To examine the relationship between executive compensation and firm value, this study employs multiple regression analysis. This method quantifies the effects of cash and equity compensation, controls for firm and period variations, and allows statistical inference of their significance.

3.3 Regression Model Specification

$$Y\,(\text{Tobin's Q}) = \beta_0 + \beta_1 X_1(\text{Cash Compensation}) + \beta_2 X_2(\text{Equity Compensation}) + \varepsilon$$

Where:

β_0 is the intercept,
β_1 is the effect of cash compensation on firm value
β_2 is the coefficient for the effect of equity compensation on firm value, and
ε is the error term.

3.4 Results and Discussion

Multiple R = 0.8811. From the regression, there is evidence of a strong association between executive compensation and firm value. The model performance is robust as attested by the R-squared figure of 0.7764, meaning that 77.64% of the variation in Tobin's Q is explained by the compensation variables. The 0.7501 R-squared further justifies model effectiveness after removing predictor variables from the data. The overall regression model is statistically significant (F-statistic = 29.52, p = 2.95E-06) which implies an effect on firm value due to one or more independent variables being statistically significant.

Table 2. Regression Results

Variable	Coefficient	Standard Error	t-statistic	p-value	95% Confidence Interval
Intercept	1.811975057	1.400239098	1.294046895	0.212953863	[-1.142271205, 4.766221319]
Cash Compensation	-0.001408556	0.002133112	-0.660329227	0.517890706	[-0.005909028, 0.003091916]
Equity Compensation	0.000276584	5.03416E-05	5.494141467	3.95056E-05	[0.000170372, 0.000382796]

Model statistics:
Multiple R: 0.881146414
R-squared: 0.776419002
Adjusted R-squared: 0.750115356
F-statistic: 29.51754214 (p=2.95255E-06)

The regression results (As shown in Table 2) indicate a significant positive relationship between equity compensation and firm value ($p < 0.001$), while cash compensation shows no significant effect.

The result provides us with a coefficient of cash compensation equal to -0.0014 and a p-value equal to 0.5179(not significant). Although higher cash compensation lowers Tobin's Q to a small extent, the effect is negligible. The 95% confidence interval of (-0.0059 to 0.0031) includes zero, confirming that there is no significant relationship. CEO cash compensation is not of importance to the value firm. This is to confirm that Fixed pay does not directly link CEO incentives to shareholder interests.

In contrast, equity compensation has a positive effect on firm value with a coefficient of 0.00028 and a highly significant p-value of 3.95E-05(highly significant).95% confidence interval [0.00017, 0.00038] Stock- and option-based compensation is positive and significantly related to Tobin's Q, i.e., firms paying more stock and options to their CEOs enjoy higher market valuations. Equity compensation works effectively in aligning the incentives of CEOs with long-term firm performance. The interests of the executives are firmly bound to the interests of the company, which improves the enthusiasm of the executives, leading to higher firm value.

There are several reasons for these findings. Cash bonuses are typically short-term rewards and need not be tied to long-term firm expansion. Alternatively, equity grants encourage executives to make strategic decisions that accumulate firm value in the long term. Additionally, investors prefer pay-for-performance compensation schemes that connect executive wealth to stock performance and therefore render them more responsible. The study is focused on technology companies, where equity pay is common as a result of high growth potential and stock-based incentives Conclusion and Limitations.

This study highlights the importance of stock-based incentives in shaping executive behavior and firm value. The finding shows that equity remuneration noticeably has a positive association with firm worth, but cash remuneration is not influential. From the results, firms can derive an advantage in that they would fare better by improving the makeup of equity-based remuneration in the executive pay packages to link incentives closer to longer-term company performance.

However, this study has certain limitations. The sample size is small in number, only four technology firms, which limits the generalizability of the findings. Furthermore, other control variables like firm size, industry trends, and macroeconomic factors should be controlled. Future studies: With a larger dataset spanning a broader array of industries and longer periods may provide more insight into compensation trends.

4 Conclusion

Overall, we have investigated the connection between executive compensation and company value, and the paper also analyzes the different influences between executive compensation and company value. we selected four listed companies (Apple, Dell, Hewlett-Packard, and Supermicro) for this purpose. All of them are from the technology industry and mainly engaged in the computer business, thus enabling us to compare different companies from the same industry and offset the ambiguity caused by diversified business.

By reading numerous related literatures, we found that Executive compensation is defined as financial and non-financial compensation that awards executives for their contributions to the company and typically includes fixed salaries, annual performance bonuses, stock options, and long-term incentive plans and executive compensation can be divided into equity compensation and cash compensation, and company value can be measured by Tobin's Q. To this end, we found a series of report data of these four companies from 2019 to 2023 through WRDS and calculated the Q value of equity compensation, cash compensation and Tobin by formula. Next, we used multiple regression analysis to examine the extent of equity compensation cash compensation and corporate value relationship and the impact of the above two elements towards corporate value.

At first, through goodness-of-fit analysis, we can find there is a linear correlation between Tobin's Q and equity compensation and cash compensation, and there is a good analysis effect. Then, we quantified the data from 2019 to 2023 and substituted them into the multiple linear regression equation to obtain the results. We found that equity compensation is an impact factor on Tobin's Q value, and cash compensation doesn't have a significant impact on Tobin's Q value. This indicates that equity incentives are more attractive to executives, thereby enhancing their work enthusiasm to create company value, while fixed salaries do not directly align the CEO's incentive policies with shareholder interests. This means that higher fixed compensation does not necessarily improve the company's performance, and the right cash compensation is more beneficial to the company's long-term development.

Nevertheless, this study has some limitations. Firstly, only five years of data from four companies in the same industry were compared, which is too little and may lead to a high degree of randomness. Secondly, the understanding of executive compensation might be too narrow. The two parts of equity compensation and cash compensation are not sufficient to cover the entire executive compensation, and there are many influencing factors such as intellectual capital. The measurement of company value is too single, and there are many other useful and important indicators. Thirdly, the research method, can be improved or multiple research methods can be adopted to make the conclusion more accurate.

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