

CEO PAY-TO-PERFORMANCE RELATIONSHIP

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Abstract: the goal of this paper is to investigate the relationship between executive officers' payouts and company's performance. To obtain more detailed results, we consider three major aspects of compensation: overall compensation, long-term (incentive) compensation and total cash (short-term) compensation. The results show that different performance measures are tied to different part of payouts. For this reason, very close attention must be paid to the compensation design to overcome agency problem and push CEOs act in the best effect not only on short-term company's performance, but also long-term financial performance as well.

Keywords: compensation, CEO, KPI, rewards.

Over the last two decades, plenty of articles on executive compensation has been published in academic literature on financial management and corporate governance, as well as in popular magazines and papers. Most of them have reported that current executive compensation plans convince top managers to take short-term risk with no or little regard for the long-term company's performance (Cooper et al., 2014). This question has become even more important in recent years as everyone (especially investors and shareholders) tries to find out key components of CEOs compensation packages in order to understand do these payouts push top managers act in the best interests of investors and company across crisis and post-crisis periods.

There is often the conflict of interest between chief executive officers and shareholders of publicly owned companies. That is why compensation packages should be designed to give executives incentives to select and implement actions, which affect shareholders' wealth in a positive way (Jensen and Murphy, 1990).

The ultimate goal of this paper is to investigate the relationship between executive officers' payouts and company's performance. The key point is that they are interdependent, i.e. compensation in previous periods should affect present performance and, at the same time, past company's performance has to be linked with current payout.

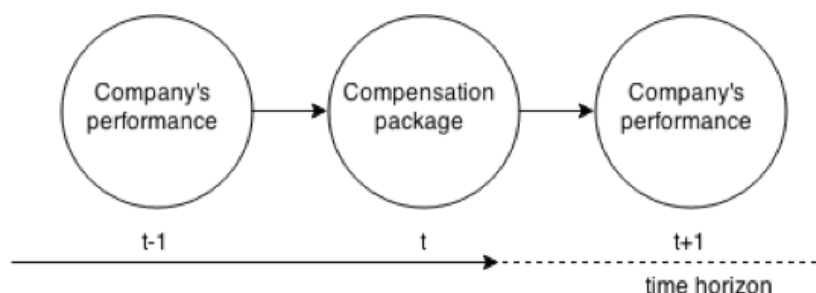


Fig. 1. Design of CEO's compensation package over time

For this reason, it is necessary to study short-term and long-term factors which might push top managers to work in the best interest of their companies. In order to understand the drivers of payout closer, it makes sense to consider three major aspects of compensation: overall compensation, long-term (incentive) compensation and total cash (short-term) compensation.

Let's discuss what every part means. The main part, which represents CEO's overall compensation, includes salary, bonus, total value of restricted stock granted, total value of stock options granted (using Black Scholes), and long-term incentive payouts. In order to capture short-term effects, we will use total cash compensation, which includes salary and bonus for a given year. Long-term effects will be evaluated by the difference between overall compensation and total cash compensation, which is called incentive compensation. It includes total value of restricted stock granted, total value of stock options granted (using Black Scholes), and long-term incentive payouts.

By decomposing overall compensation, we may take into account time horizon: incentive compensation should push executives to take decisions with regard to the long-term company's performance, while cash compensation should align CEO's actions with present and past performance (Copeland and Weston, 1988).

The key hypothesis of given research is: There is a positive link between CEO compensation and company's performance. Specifically, we will try to investigate the following questions: (i) how company's performance explains CEO's compensation and (ii) does compensation packages convince executives to act in the best stakeholders' interests.

In order to test our hypotheses, we used data on chief executive officer's payouts from Execucomp and financial figures (accounting and market variables) from Compustat. The data consists of 315 biggest American

companies listed, which are components of S&P 500 index, over a five-year period between 2008 and 2012. Our dataset consists of 1575 observations which represent the panel data.

In order to obtain sufficient and consistent results and overcome endogeneity problem, we use instrumental variables two-stage least squares estimator. Our models are constructed considering time and individual fixed effects. It allows us to control for unobservable heterogeneity in the company's environment.

The equation that we estimate is as follows:

$$\ln Compensation_{it} = \alpha_i + \beta_1 \cdot Performance_{it} + \beta_2 \cdot Controls_{it} + u_{1it}$$

$$Performance_{it} = \rho_i + \theta_1 \cdot Performance_{it-1} + u_{2it}$$

We consider several metrics of company's performance:

- SALES – The Net Annual Sales as reported by the company, millions, \$
- MARKET VALUE – The Close Price for the fiscal year multiplied by the company's Common Shares Outstanding, millions, \$
- EPS – Earnings Per Share, \$
- ROA – The Net Income Before Extraordinary Items and Discontinued Operations divided by Total Assets, percentage
- DIVIDENDS YIELD – The Dividends per Share by Ex-Date divided by Close Price for the fiscal year, percentage
- TOTAL SHAREHOLDERS RETURNS FOR 5 YEARS – The 5 year total return to shareholders, including the monthly reinvestment of dividends, percentage

Control variables are the following:

- AGE – Executive's age, years
- EXPERIENCE – Experience as CEO, years

The explanatory variables, which are of primary interest, are sales and market value. These variables were presented in plenty of studies (Brickley, Bhagat, and Lease, 1985; Core, Holthausen, and Larcker, 1999; Ariely, Gneezy, Lowenstein, and Mazar, 2009; Balafas and Florackis, 2014).

First of all, we have analyzed how performance measures influence total executive compensation. The only explanatory variable which is statistically significant at 10%, is return on assets (ROA). This result is quite predictable because, as we discussed previously, different performance measures are tied to different part of compensation. This idea was supported by, for example, findings of Jensen and Murphy (1990), Gerhart and Milkovich (1990) and Cooper et al. (2014).

More interesting findings are derived from models with decomposed compensation as a dependent variable. Firstly, we find strong statistically significant influence of return on assets on total current executive's compensation, whereas that performance measure has no relationship with incentive compensation. This finding can be referred to managerial over-confidence hypothesis. It states that overconfident executives accept high levels of total current compensation but subsequently underperform in terms of long-term company's performance. Executive's age has also positive relationship with total current compensation measure. As the total current compensation represents salary plus bonus, i.e. pay-to-performance sensitivity, we suggest that executive has fewer career concerns as he or she is near retirement, so higher pay-to-performance sensitivity may be offered at this time.

As regards the third model with incentive compensation as a dependent variable, we found that market value is positively connected with executive's incentive compensation. This result supports the theoretical background that incentive payouts are designed to align managerial incentives with company's long-term growth.

The empirical results also indicate positive and statistically significant relationship between yield of dividends and incentive compensation. This confirms the idea that incentive payouts help to overcome agency problem, i.e. executives' goals are tied to owners' aims.

Besides, we document that there is a nonlinear relationship between CEO experience and incentive compensation package. Specifically, estimation shows that the years of experience, at which the influence of experience on incentive compensation is maximized, are around 12.8 years. This result confirms Murphy (1986) and Barro and Barro (1990) suggestions that the executive's compensation is more sensitive to long-term payouts earlier in CEO's career than later.

We have also obtained results considering time horizon. There is a strong relationship between long-term financial and market performance and incentive compensation. Our findings have confirmed the hypothesis that compensation packages are designed in the way to align managerial incentives with company performance for more than one year.

In conclusion, in this study we have sought to introduce an empirical framework to the field of corporate governance and institutional analysis, which tries to explain key determinants of CEO compensation more clearly. Our findings suggest that cash payouts are more likely aligned with book measures of company's performance, such as ROA, whereas the incentive part of compensation tends to be aligned with market performance, such as market value. The other important finding is that there is a relationship between incentive

part of compensation and yield of dividends. It might be explained that executives' compensation in companies with the biggest market capitalization is designed to be related with company's future growth, especially taking into account crisis and post-crisis period, which was under review.

We hope that our research pattern and proposals presented will be useful to different companies, compensation experts, shareholders and investors, advisors and policymakers, and consultants in their ongoing efforts to improve the field of executive compensation design.

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