

INVESTIGATING THE RELATIONSHIP BETWEEN EARNINGS CHANGES BEFORE EXTRAORDINARY ITEMS AND EXECUTIVE BONUS CHANGES IN COMPANIES LISTED IN TEHRAN STOCK EXCHANGE

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ABSTRACT: *The present study aims to investigate the relationship between earnings' changes before extraordinary items and changes of Executive bonus in companies listed in Tehran Stock Exchange during the years 2006 and 2012. The results indicate that there is a significant negative correlation between Executive bonus and first rank difference of profit to assets ratio. There is a negative relationship among the size variables, the book value to stock price, the logarithm of the total costs of the company and the dependent variable. There is also a positive relationship among the logarithm of total sales of financial leverage variables (debt), Cffo and the dependent variable.*

Keywords: Return on Assets, Executive Bonus, Company Size, Ratio of Book Value to Stock Price, Total Costs of the Company

INTRODUCTION

According to the agency theory, the organization is a set of contracts. The existence of a business unit is based on its contracts. These contracts can be written or be unwritten [1].

One of the most important contracts is a bonus problem between major shareholders and directors of the company. An agency relationship is a contract under which the employer appoints agent and delegates decision-making authority to him [2].

This conflict originates from their different objectives. It is assumed that agency of each party is trying to maximize their profits. The conflict of interests' assumption between the employer and owner or representative and agent causes that each of them tries to optimize and maximize their own interests [3].

This research focuses on the determination of executive bonus structure as one of the solutions to reduce representation conflicts. Generally, the conflicts of interest' existence between managers and owners of businesses, is inevitable. This conflict arises from their different objectives because each of the parties tries to maximize its own interests.

RESEARCH THEORY

In order to reduce and resolve conflicts of representation, the problem is determining the optimal contract that provides an incentive for shareholders and managers to have deal with each other. This type of contract is called the optimal incentive contract. In this case, the information should be provided for the conclusion of the contract. The contract usually has two main features:

1. It provides necessary information in an uncertainty conditions.
2. It creates an appropriate basis for participating in risk between the shareholder and manager.

The basis of contracts and bonus schemes in operation is one of the following three cases:

1. Accounting profit

2. Market's value added growth, increasing the market share, increasing the quantity and quality of production

3. A combination of 1 and 2

By creating an optimal incentive contract, it is expected that firm performance and consequently the company's market value rise and this is due to the efforts of management. In this regard, accrual accounting system provides information to the conclusion and implementation of contracts. The information produced in in this system (for example, accounting profit) specifically form the basis of many performance indicators and in this sense, they play an important role in issues of representation; so in this regard the quality of accounting information is very important. Evidence shows that, when the relationship between accounting earnings and stock returns is lower, accounting profit is more important for companies in bonus agreements with directors [4,5]. Also, a response rate of bonus to profit is influenced by investment opportunities, sustainable earnings and dividend information content [6]. In the Commercial Code of Iran, Article 241 refers to the fact that through the conditions provided in Article 134, a certain proportion of net profit of the financial year may be considered to reward Board. It should not exceed five percent of the profits of the public companies of the same year paid to shareholders, and ten percent of the profits of stock companies in the year paid to shareholders.

According to this legal matter, it is realized that firstly, bonus payments and its amount are under shareholders' general assembly control. Secondly, the general assembly is faced with restriction in bonus payments. Therefore, according to the information the general assembly could decide about bonus payments and its amount, but this decision is not without limitations.

According to Caylor and Lopez [7], empirical evidence indicates that the amount of CEO bonus in increasing asset returns is considerably more than that of the reduction of asset return. As a result, by increasing and decreasing returns on assets with the same absolute value, equally rewarded or not punished.

In this study, with a comprehensive review of this topic in Tehran Stock Exchange, we will investigate to accept or reject the claim of previous research, including Caylor and Lopez [7].

LITERATURE REVIEW

Lambert and Larcker [7], through an empirical model, showed that the use of performance measures based on accounting data and market information in the award contract relates to the inaccuracy of these measures and their sensitivity to management actions. The results showed that cash fee of management has a positive and strong correlation with equity returns, but its correlation with stock market returns is weaker.

Natarajan [8] investigated management performance measurement tools to reward. One of the main methods for measuring the performance of management is accounting tools. Since this measurement tool contains information about the performance of managers and investment decision, therefore, they play the role of measurement tool and performance and motivation evaluation of the managers.

Namazi and Sirani [9] studied the important structures in determining the contracts, indicators, and parameters of the bonus on managers of companies in Tehran Stock Exchange from 1997 to 2001. They found that as contract period is longer and has higher stability, it increases the value of the company more, and that, practically, most of the present projects and award contracts are based on earnings.

Anderson et al [10], in a study, showed that both cash bonus and stock-based bonus have a positive correlation with accounting returns and market returns. However, the relative impact of market returns between these two types of fees (in comparison with accounting return) is different and the impact of market returns (compared with accounting returns) on the stock-based bonus is much greater than its effect on cash bonus. Also, the sensitivity of the company's performance to cash reward is more than its sensitivity to the stock-based bonus.

Sajjadi and Zarezadeh [11] studied the relation between executive bonus plans and economic criteria for evaluating the performance. Economic criteria of the studies suggest that the relationship between paid bonus to the managers and market value-added and economic value-added is modified. Also, the results showed a significant correlation between the percentage of stock ownership of directors and economic value-added and lack of relationship with other measures of performance of the investigation.

Caylor and Lopez [7] studied the relationship between cost behavior and reward of managers of companies. The results showed that there is a significant positive correlation between the return on assets and bonus of the board. The behavior of costs and rewards are significant association board. Also, cost behavior and bonus of the board are related. The sales capacity of the company has a significant and positive effect on the relationship between cost behavior and bonus of the board.

Banimahd *et al* [12] examined the relationship between accounting conservatism and the management bonus from 2003 to 2011 in Tehran Stock Exchange. The results of the

study showed that there is negative correlation between accounting conservatism and management bonus. Also, the evidences show that management bonus has a positive correlation with company size and profitability ratio. However, the results of this research do not approve a significant relationship between debt ratio and management change with management bonus.

RESEARCH HYPOTHESES

The main hypothesis: There is a significant relationship between changes in earnings before the unexpected items and changes to rewards of managers of listed companies in the Stock Exchange.

Sub-hypothesis:

1. There is a significant relationship between positive changes in asset returns and rewards of executives of listed companies in Stock Exchange.
2. There is a significant relationship between negative changes in asset returns and rewards of executives of listed companies in Stock Exchange.
3. The effect of control variables on the relationships between positive and negative changes asset returns of companies and rewards of executives is meaningful.

RESEARCH METHODOLOGY

The methodology of the study, regarding nature and content, is correlational which, using secondary data extracted from the financial statements of the companies listed in Tehran Stock Exchange, analyzes the correlational relationship. This research was conducted within the framework of inductive-deductive reasoning. The reason to use the correlation method was to discover correlations between the variables. Correlational study is a kind of descriptive research. In the present study, first, the correlation between the variables of the research was examined and, in case of correlation between the variables of the study, multiple regression models were estimated. On the other hand, the current study was a retrospective (quasi-experimental) one, i.e., based on the analysis of past and historical data (financial statements). It is also a library and analytical-causative study. The research, in terms of objective, is practical and, in terms of method, descriptive-correlational.

THE POPULATION AND SAMPLE

The research samples include 57 listed companies in the Tehran Stock Exchange whose data has been collected and statistically analyzed for a period of 7 years, from 2006 to 2012.

Research sample companies meet all the following conditions:

1. They are listed on the Tehran Stock Exchange during the period of 2006 to 2012.
2. They should not be investment and financial intermediate.
3. Companies which their financial year ended 29 March each year.
4. Companies which their data is available in the studied period.
5. Companies that have not changed their fiscal year during

Table 1: Descriptive Statistics of Sample Variables (2006-2012)

	DBOUS	PDROA	NDROA	size	bvmv	Cost	lev	cffo	
Mean	416	11.159	1.112	5.925	0.396	5.698	0.460	0.691	
Median	29225	9.013	0.000	5.865	0.275	5.657	0.538	0.133	
St.D	1.225	10.39	0.000	0.575	0.396	0.611	0.241	2.760	
Percentile	25	0	2.996	0	5.604	0.123	5.393	0.234	0.034
	50	29225	9.014	0	5.865	0.275	5.657	0.538	0.133
	75	120000	16.472	0	6.167	0.489	5.979	0.661	0.396

Dependent variable normality exploration

In this research, Kolmogorov - Smirnov test was used to evaluate normality of the dependent variable data.

Table 2: Dependent variable normality test

variable	DBONUS
Kolmogorov - Smirnov	0.991
p-value	0.280

According to results, achieved a significant level from Kolmogorov-Smirnov for dependent variable is more than test error level ($\alpha = 0$), and the normality hypothesis of dependent variable is accepted.

The variance Dissimilarity

To test the variance dissimilarity, ARCH LM disturbing statements have been made in the investigation. Variance dissimilarity of ARCH LM test results is shown in table 4.4:

Table 3: ARCH LM dissimilarity test results of the research model

Description	StatisticValue	Possibility
Statistics F	1.102885	0.2144
Durbin-Watson statistic	1.727742	0.2144

According to Table 3, because the test statistic is not significant at the 5% level, the homogeneity of variance is confirmed and dissimilarity of variance disturbing sentences is rejected; therefore, it is required to apply

appropriate methods, using a combination analysis or the panel method.

RESULTS FROM THE RESEARCH HYPOTHESIS**Table4: The results of sample selection to estimate model of the research**

Test type	Test statistics	Test statistic amount	Degrees of freedom	P-Value	result
F Limer Test	F	1.543	(398,155602)	0.0003	Panel Data
Hausman test	χ^2	1.000	8	0.000	Fixed effects

According to the results of the Limer F test, since the P-Value of the test is less than 0.05 (0.0019), differentially intercept is verified. To estimate the model, data panels was used. Also according to the results of the Hausman test, since the P-Value test is less than 0.05 (0.000), the model must be estimated using fixed effects methods. Table 6 shows the results of the models as well as the classical regression and statistics outcomes.

Investigating the general significance of the model, according to the probability (P-VALUE), F-statistic is smaller than 0.05 (0.000) with 95% confidence, the overall significance of the model is confirmed. The coefficient of adjusted model determination also suggests that 26.6 percent of changes in the DBONUS is explained by the variables in the model.

The results obtained are summarized in Table 5 indicate that the variable Managers' rewards and variable of PDROA, because of having -4891.262, have negative and significant correlation. As a result, the first sub-hypothesis of research is confirmed.

The results show that the coefficient of managers' rewards and the variable of NDROA, due to the coefficient -18559.11, have negative and significant correlation. As a result, the second sub-hypothesis is confirmed.

Table 5: shows the results of estimating model

Variable		t Statistic	Coefficient	P-Value
C		-135.946	-4230509	0.000
PDROA		-16.808	-4891.262	0.000
NDROA		-24.764	-18559.11	0.000
SIZE		-82.449	-608016.5	0.000
SALE		97.589	3263173	0.000
BVMV		-14.735	-112005.9	0.000
COST		-56.262	-1882252	0.000
LEV		4.092	48072.66	0.000
CFFO		40.513	43168.22	0.000
D-W	P-Value F	F statistic of Model	Adjusted Coefficient of Determination of Model	
1.725	0.000	8074.75	0.266	

The third sub-hypothesis investigates the relationship between the control variables and the dependent variable, which summarizes the results as follows:

There is negative relationship between variable size, the ratio of book value to market value of the shares and the logarithm of the total costs of the company and the dependent variable of the study, and there is a positive relationship between logarithm of total sales variables to financial leverage (debt) and Cffo and the dependent variable of the study; and since all significant coefficients are less than 0.05, as a result, all of these variables have a significant relationship with the dependent variable of the study.

Because all sub-hypotheses were confirmed, as a result, the research hypothesis is confirmed.

CONCLUSION

The results indicate that the variable of managers’ reward and first-order difference are positive and the variable of the ratio of earnings to assets have a negative and significant relationship. As a result, the first sub-hypothesis of the research that "there is a significant relationship between positive changes in asset returns and rewards of managers of listed companies in the stock" is approved.

The results also show that the variable of managers’ rewards and first-order differencing is negative and the ratio of the earnings variable to assets has a negative and significant relationship. Consequently, the second sub-hypothesis of the research that "there is a significant relationship between negative changes of the asset returns and rewards of managers of listed companies in the stock" is approved.

The third sub-hypothesis examines the relationship between the control variables and the dependent variable, the results of which are summarized below:

There is a negative relationship between variable size, the ratio of book value to market value of the shares and the logarithm of the total costs of the company and the dependent variable of the study, and there is a positive correlation between logarithm variables of total sales of financial leverage (debt) and Cffo and the dependent variable of the study; and because all significant coefficients of these variables are less than 0.05, as a result, all of these

variables have a significant relationship with the dependent variable of the study.

Since the sub-hypotheses of the research are approved, the research hypothesis is confirmed.

According to agency theory, one person (the owner) grants financial decision-making to another person (representative) [13]. The existence of a conflict of interest concerns the owners (shareholders), to the extent that they, to ensure the optimal allocation of resources by managers, evaluate the performance of managers. Over time, it has been found that some management decisions may waste company resources and loss of the property of owners. On the other hand, managers are always looking for maximizing their profits on the one hand, and ensure the owners that the decisions taken by them are in line with the interests of the owners [14]. One of the most effective ways to reduce conflicts of interest between managers and shareholders and improve the performance of managers is to motivate managers through designing ways based on the reward. In fact, to control the agency of managers in companies and ensure the fulfillment of their responsibility and accountability in the large corporations and protecting shareholders’ rights, measures should be considered. One of these strategies is the mechanisms for rewarding managers based on performance. Evidences obtained by Murphy (1986) also showed that paying bonus to managers have a positive and significant relationship with performance, and even if there is no correlation between the bonus and performance, the resource of managers through tools such as stock options, plans, long-term performance and, above all, sock ownership depend on the performance of companies. Confirming hypotheses of the study based on the relationship between profit changes and managers’ bonus are quite reasonable. The results of this study are consistent with studies done by [4] and [10].

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