© 2013,
Science-Line Publication
www.science-line.com

ISSN: 2322-4770
Journal of Educational and Management Studies
J. Educ. Manage. Stud., 3(4):455-464, 2013

JEMS

Analysis of the Relationship between Managers' Compensation and Earnings in Companies Listed in the Tehran Stock Exchange

Bijan Abedini, Mohammad Hossein Ranjbar and Ahmad Sanjari Maijani*

Department of Accounting, Islamic Azad University, Science and Research Branch, Hormozgan, Iran

* Corresponding author's Email: salarx7000@yahoo.com

ABSTRACT: The objective of the present study is to study the relationship between managers' compensation and earnings in companies. It is a causal-analytic library survey which is based on the analysis of panel data. In this research the financial information on 112 companies listed in the Tehran Stock Exchange from 2006 to 2010 is analyzed. It shall be mentioned that 560 companies were listed in the Tehran Stock Exchange each year. The SPSS 20, EVIEWS 7 and MINITAB 16 software were used for analyzing the research results. Results of the study of the research hypothesis indicated that there is a significant direct relationship between managers' compensation and earnings.

Key words: Managers' Compensation, Earnings Fluctuations, Panel Data.

ORIGINAL ARTICLE

Received 05 Jul. 2013
Accepted 05 Aug. 2013

INTRODUCTION

From the late 1980s to the early 1990s, most big international companies allowed their top managers to buy actions at the base price and have a share of the earnings if their performance would contribute to the growth of the company. For about one decade the method was popular, because the securities market was blooming for some subsequent years. Therefore, managers and stockholders benefited a great deal from the market, but after the fall of stock markets in 2000 big companies figured that the method does not always yield satisfactory results. Hence, the relationship between managers' compensation and the earnings is studied in this research.

Research Literature

Foreign Researchers: Natarajan (1992) carried out a study titled "Application of Optional Accounting Reports to Managers' Compensation Contracts". In his study he analyzed tools for measuring the effect of compensation on the performance of managers. One of the main ways of measuring the performance of the management is by using accounting tools. Since the measuring tools give information on the performance of managers and investment decisions, they are used as means of measuring and assessing the performance and motivations of managers.

Arya et al. (2008) conducted a study titled "Do stockholders always prefer managed earnings?" At the end of the study they found out that managers remove the unstable components of earnings through income smoothing and establish a serial connection between different annual earnings. As a result, estimations of capital markets about actions potentially depend on the income smoothing patterns used by managers. Therefore, at times when smoothing chances are decreased, unusual variations of market value and corporate return are observed.

Shalev et al. (2011) in their study, "Accounting Income and Top-Management Compensation", analyzed the effect of the structure of managers' compensation on the current values of companies resulted from integration. They claimed that managers' compensation may change the results of assessments and information revealed on assets and non-monetary liabilities. Results of the research showed that the structure of managers' compensation is an important factor in determining the value of the obtained goodwill. The reason is that the goodwill in purchased companies is an important factor in determining expected earnings and can also influence the current and future managers' compensation. In addition, results of the research indicated that since the performance and efficiency of companies are determined based on various accounting criteria, compensation contracts affect the accounting methods employed by managers.

Namazi and Sirani (2004) performed a study titled "Empirical Analysis of Factors Important in Determining Contracts, Indicators, and Compensation Parameters for CEOs of Iranian Companies". They widely studied managers contracts of companies listed in the Tehran Stock Exchange. Results of the study are as follows: 1) On an average basis there is a conflict between the interests of managers and stockholders; 2) A contract which makes a balance between the earnings of stockholders, managers and employees contributes to the enhancement of

To cite this paper: Abedini B., Ranjbar MH. And Sanjari Maijani A. 2013. Analysis of the Relationship between Managers' Compensation and Earnings in Companies Listed in the Tehran Stock Exchange. *J. Educ. Manage. Stud.,* 3(4):455-464.

efficiency; 3) A contract which is only based on accounting criteria and does not take factors such as price and corporate return into account rarely leads to an increase in value.

Thaqafi and Kurdestani (2004) conducted a study titled "Analysis and Clarification of the Relationship between Earnings Quality and Market's Response to Variations of Dividend". The sample under study included 50 companies active from 1992 to 2002. Results of the research suggest that according to the quality of earnings measured based on earnings persistence, the market shows a positive reaction to the expected corporate return and corporate return is not affected by the accrual components of earnings.

Nourvash and Husseini (2009) carried out a study titled "Analysis of the Relationship between Quality of Disclosure (Reliability and Timeliness) and Earnings Management". In this study, quality of disclosure was measured using the following two criteria: timeliness and reliability. Earnings management in companies was also assessed using the modified Jones model. Findings of the research indicate that there is a negative significant relationship between the quality of corporate disclosure and earnings management. Moreover, it was also found out that there is a negative significant relationship between timeliness of corporate disclosure and earnings management.

Problem Statement

With the development of commerce and industry as well as the emergence of gaps between owners and managers of enterprises, control and compensation mechanisms have found to be necessary. According to the agency theory, an organization is a combination of contracts. The entity of every business unit depends on its contracts. The contracts can either be written or non-written. One of the most important types of contracts is compensation contract for major stockholders (owners) and managers. Agency is a form of contract by which the employer/owner assigns an agent the task of decision-making (Namazi, 2006). The ratio of compensation to earnings is determined by investment opportunities, earnings persistence, and earnings response coefficient (Bushman et al., 2006). Accordingly, the main question raised in this research is whether there is a relationship between managers' compensation and earnings.

The objective of the present study is to analyze the relationship between the managers' compensation and earnings in companies listed in the Tehran Stock Exchange. Hence, the scientific and practical objectives of the research are determined as follows:

1) Determining the relationship between managers' compensation and earnings in companies listed in the Tehran Stock Exchange.

2) Clarifying the relationship between performance criteria and managers' compensation.

Moreover, the research hypothesis also states that there is a relationship between managers' compensation and earnings.

MATERIALS AND METHODS

The statistical population for the present research includes all of the companies listed in the Tehran Stock Exchange. According to the official website of the Tehran Stock Exchange, a total of 458 companies from 37 industries had been listed in the Tehran Stock Exchange by 2010. Therefore, all of the companies listed in the Tehran Stock Exchange from 2006 to 2010 formed the statistical population for the present study. In order for the sample to be a true representative of the statistical population, samples were selected by the Criteria-Filtering Technique. The following criteria were met for choosing the samples. That is to say, each of the sample companies meets all of the sampling criteria, which are as follows:

1- According to the information required from year 2005, all of the companies that were listed in the Tehran Stock Exchange as of March 22, 2006 and those companies whose names were still listed in the Tehran Stock Exchange by 2010.

2- Companies whose stock was exchanged actively in the Tehran Stock Exchange during the aforementioned period.

3- Those companies whose fiscal period ends to 20th March of each year and did not experience changes of fiscal period during the aforementioned period.

4- Companies that do not belong to brokers (investment companies, holding, leasing, banks and insurance companies).

5- In order to calculate market value at the end of each fiscal year by Tobin's Q ratio, only companies are selected whose stock is exchanged at least once from January 21 to February 20 or from February 20 to March 21 each year.

6- Companies with required information available.

The criteria were checked by the order of appearance. That is to say, if a company met the first criteria, it was not checked to see whether it met the next criteria.

Research Samples

A total of 112 companies from 19 industries were found to meet the criteria. The samples were used to analyze research hypothesis. Therefore, the sample size is not equal to the size of the statistical population.

The present study is a descriptive study for the method it employs for collecting information. Based on its objective it is also a developmental research and

based on its methodology it is a correlation research. It applies the aforementioned theories to the newly emerged Iranian market. First, data and information associated with research variables were extracted manually from accounting items contained in the audited financial statements of companies listed in: the Research, Development and Islamic Studies website affiliated with the Stock Exchange at www.rdis.ir; the CODAL network or the comprehensive system of publishers' information at www.codal.ir; Iranian Center for Financial Information Processing at www.fpiran.com; and compact discs published by the Stock Exchange. Additional information on the financial statements of companies, which is stored in the Stock Exchange database, was also extracted using Novin Rah Avard software in pdf and .xls formats. The data was also analyzed using Excel, SPSS, and EVIEWS software.

Definition and Calculation of Variables

Dependent Variables:

Managers' Compensation Contracts ($\Delta LnComp_{i,t}$)

Managers' Compensation: Organization usually rewards managers in order to compensate for the creativity and innovations of managers in finding and employing new and better procedures and methods. Such rewards are normally given to managers that accomplish tasks with a quality higher than the expected quality (Namazi, 2006). The reward or compensation value is determined based on audited balance sheets.

Independent Variables

Earnings **(** $\Delta EARN_{i,t}$ **):**

Accounting Income: Accounting income or net profit refers to the difference between the income resulting from sales of goods and manufacturing services of a registered enterprise and the total registered expenses of the enterprise. In this research, the earnings value obtained without extraordinary items is used as a criterion for assessing executive performance.

Control Variables

Corporate Total Return ($RET_{i,t}$ **):**

Total Return: Total return refers to the combination of interests associated with one share during a period of time. The period can be a day, month, or year. The benefits include cash payments such as dividend and the different between stock's price at the beginning and at the end of the period of concern. In the present study, return is used as a criterion for assessing the performance of the management.

The ratio variations of earnings to variations of returns ($V(earn)/V(ret)_{i,t}$ **):**

The ratio of the variations of earning to variations of return is calculated by dividing variation of earnings by variation of return.

Investment opportunities (ratio of market value to book value) ($MB_{i,t}$ **):**

Investment opportunities are equal to the ratio of market value to book value (MB) of capitals and are calculated using the following relation:

$$MTB_{i,t}=\frac{MarketValuei,t}{BookValuei,t}$$

Corporate market value is obtained by multiplying the mean stock market price during the fiscal period by the number of issued shares. Book value is also the book value of equities at the end of the fiscal year.

Earnings Persistence ($PERSIST_{i,t}$ **):**

Earnings Persistence: It refers to the continuity (repeatability) of current earnings. Increase in the earnings persistence shows that the company is more capable of keeping current earnings and has earnings with more quality. In this research, earnings persistence is measured using the Lipe-Kormendi regression model (1987).

According to the Lipe-Kormendi regression model (1987) earnings persistence is measured by regression of current earnings on previous periods' earnings.

$$\Delta EARN_{i,t}=\beta_0+\beta_1\Delta EARN_{i,t-1}+\epsilon_{i,t}$$

In the above regression model, coefficient reflects earnings persistence. In the test model developed for research hypotheses the variable is shown by "PERSIST".

Earnings response coefficient ($ERC_{i,t}$ **):**

Earning Response Coefficient: Theoretically, it refers to a state where the information presented on the capital market can influence the decisions of useful investors. In order to measure the variable, the earning response coefficient (ERC) is used. The value of the coefficient is obtained by regression of net profit on return.

In addition, in order to measure the earnings value relevance based on the method by Bushman et al. (2006) the earning response coefficient is also used. The coefficient is obtained from the following regression model:

$$RET_{i,t}=\beta_0+\beta_1\Delta EARN_{i,t}+\epsilon_{i,t}$$

In the above regression model, is the earning response coefficient, which reflects the earnings response coefficient? In the test model for the hypotheses the variable is shown by ERC (Peng, 2011).

The Method for Analysis of Models and Examination of Research Hypothesis:

In this research the hypothesis under examination is studied using the multivariate linear regression

model. First, the statistical method used in the research, which is the panel data method, is described. Second, tests performed for determining the significance of the model and its independent variables are explained. Each statistic explains how to reject or approve the results of the tests. Research hypotheses were examined using SPSS (ver. 21), EVIEWS (ver. 7) and MINITAB (ver. 16) software were employed.

Panel Data Method

In general, the following model is a model that works with panel data:

$$Y_{it} = \alpha_{it} + \sum_{k=1}^{k} \beta_{kit} X_{kit} + \varepsilon_{it}$$

Fixed Effects Method

The fixed effects method assumes that variable coefficients (slopes) are fixed and the differences between units can be expressed by y-intercept differences. If different y-intercept values are determined for different sectional units, the so called One-Way Fixed Effects method is used. The model for the method is expressed as follows:

$$Y_{it} = \alpha + \mu_i + \sum_{k=1}^{k} \beta_k X_{kit} + \varepsilon_{it}$$

However, if the y-intercept values of sections and periods vary from each other, the Two-Way Fixed Effect method is used. The model for this method is as follows:

$$Y_{it} = \alpha + \mu_i + \lambda_t + \sum_{k=1}^{k} \beta_k X_{kit} + \varepsilon_{it}$$

Chow Test or Bound F Test

In order to determine whether panel data or combined data are useful for estimating the desired function, a hypothesis is examined which states that all of the fixed terms of the estimation are equal. The null hypothesis for this test, which is known as the Chow test or the bound F test, is as follows:

$$\begin{cases} H_0 : \alpha_i = \alpha \\ H_1 : \alpha_i \neq \alpha \end{cases}$$

In order to examine the aforementioned hypothesis, the F statistic is used as follows:

$$F(N-1, NT-N-K) = \frac{(RRSS - URSS)/(N-1)}{URSS/(NT-N-K)}$$

Hausman test

When results of the Chow tests performed on each hypothesis confirm the use of panel data, in order to determine the best estimation method (fixed or random effects of the differences between sectional units) the Hausman test method is employed. The statistic for the test is obtained as follows:

The null hypothesis for the Hausman test is as follows:

$$\begin{cases} H_0 : E(u_{it} \mid X_{it}) = 0 \\ H_1 : E(u_{it} \mid X_{it}) \neq 0 \end{cases}$$

Model Significance Test

In order to determine the significance of the regression model the F statistic was used. The null hypothesis for the F test is as follows:

$$\begin{cases} H_0 : \beta_1 = \beta_2 = ... = \beta_k = 0 \\ H_1 : \beta_1 \neq \beta_2 \neq .... \neq \beta_k \neq 0 \end{cases}$$

The accuracy of the hypothesis is examined using the following statistic:

$$F = \frac{ESS/(K-1)}{RSS/(N-k)}$$

Guide: When the calculated F is larger than the design F ($F > F_{\alpha(K-1,N-K)}$),

The numerical value of the test function fall into the critical area and the null hypothesis (H_0) is rejected. In this case, the entire model is significant at a confidence level of 95%.

Coefficients Significance Test

In order to study the significance of coefficients of independent variables of each model the t statistic is used. The null hypothesis for the t-test is as follows:

$$\begin{cases} H_0 : \beta_1 = 0 \\ H_1 : \beta_1 \neq 0 \end{cases}$$

The accuracy of the hypothesis is examined using the following statistic: $T = \frac{\hat{\beta}_1 - \beta_1}{SE(\hat{\beta}_1)} \sim t_{\frac{\alpha}{2}, N-k}$

When the null hypothesis (H_0) is rejected, the coefficient of concern (β_1) will be significant at a confidence level of 95%. Positivity of the coefficient also implies that there is a relationship between the independent and dependent variables.

Examination of Normality of Variables Distributions

In order to examine the normality of the variables the Kolmogorov-Smirnov test was put into use. The null hypothesis and statistic for the test are as follows:

$$\begin{cases} H_0 : Normal\ Distrbution \\ H_1 : Not\ Normal\ Distribution \end{cases}$$

$$D = \underset{1\le i\le N}{Max}\left(F(Y_i) - \frac{i-1}{N}, \frac{i}{N} - F(Y_i) \right)$$

Guide: When the probability of the test is larger than 0.05, it is concluded that the variables and remains are distributed normally (confidence level=95%).

Examination of Hypotheses of the Linear Regression Model

In order to choose the Best Linear Unbiased Estimators (BLUEs) as the ordinary least squares of regression coefficients, the following hypotheses are defined for the mode:

- The remains are normal: One of the hypotheses of the regression model is that zero-mean errors are normally distributed. To prove the hypothesis, the mean value of data should be small and close to zero. Its standard deviation should also be close to one. SPSS software is used for performing the test and creating the associated diagrams.

In addition, the Kolmogorov-Smirnov test, as a non-parametric test, is performed to examine the normality of the remains. The statistic for the test can also be calculated using SPSS software.

Guide: When the value of the statistic obtained from the test is larger than 5%, the null hypothesis is approved. The hypothesis states that the variable under study is normally distributed at a confidence level of 95%.

- Independent variables lack collinearity: Collinearity refers to the linear relationship between explanatory and independent variables. One of the ways of indentifying collinearity or lack of collinearity is to analyze the correlations among independent variables. If there is not a severe correlation among independent variables, collinearity will not occur. In this study, the collinearity of independent variables is studied using Pearson's correlation coefficient.

- Remains are independent: One of the hypotheses of regression analysis is independence of errors (or the difference between true values and values predicted by the regression model). If the independence of errors is not proved and errors have correlations, regression models cannot be used. In order to study the independence of errors the Durbin-Watson test is employed. The statistic for this test falls into the range of +0-4. If the statistic falls into the range of 1.5-2.5, the null hypothesis, H_0, (which stands for lack of correlation among errors) is approved and the regression method can be used. The test can be performed using SPSS software (Mo'meni and Fa'al Qayumi, 2007).

- There is no heteroscedasticity among the remains: The Lagrange Multiplier (LM) is used to test intergroup heteroscedasticity using panel data. The statistic can be calculated by performing an overall OLS on the model using combined data.

$$LM = \frac{T}{2}\sum_i \left(\frac{S_i^2}{S^2} - 1\right)^2 \sim X^2_{(n-1)}$$

Guide: When the value of the calculated statistic is smaller than the critical value at a confidence level of 95%, the H_0 hypothesis is approved and the heteroscedasticity among sectional units is rejected.

- There is no misspecification and linearity in the model

Neglecting variables that should be contained in the equation (due to lack of awareness about their existence, unavailability of relevant information, adding undue variables to the equation, an incorrect function form (e.g. choosing a linear function instead of a logarithmic function), etc. can lead to model misspecification. In this research, in order to study model misspecification the Ramsey model is used. The statistical hypothesis for this test is expressed as follows:

$$H_0: \epsilon \sim N(0, \sigma^2 I)$$

$$H_1: \epsilon \sim N(\mu, \sigma^2 I) \qquad \mu \neq 0$$

The stages of the test are as follows:

1) Obtaining estimated Y values ($\hat{Y}$ s)

2) Estimation of the model as follows:

$$Y_i = \alpha + \beta_i X_i + \delta_1 \hat{Y}_i^2 + \delta_2 \hat{Y}_i^3 + e_i$$

3) Calculation of the test statistic as follows:

$$F = \frac{R^2_{New} - R^2_{Old} / P_1}{(1 - R^2_{New}) / (n - P_2)}$$

4) If the calculated F is larger than the design F, the model has misspecification.

RESULTS

In this research, data is analyzed using central indicators such as average and mean values as well as dispersion indicators of standard deviation. However, average is the main central indicator, which shows the average value of the data. In addition, standard deviation is among the dispersion parameters that shows the level of dispersion of the data. Skewness is also one of the parameters showing deviations from symmetry and is known as the symmetry indicator (Mo'meni and Qayumi, 2011). Particulars of the descriptive statistics on the model variables are shown in Table 1. The statistics are obtained using the criteria-filtering technique and by removing the outliers in SPSS software.

Table1. Descriptive statistics on the research variables

Variable	Number of observations	Average	Standard Deviation	Minimum	Maximum	Skewness	Kurtosis
Managers compensation	560	092.-0	7807.0	5820.-6	0031.7	014.-0	277.27
Earnings	560	0348.0	8099.0	4555.-2	2154.2	078.0	014.0
Total return	560	0348.0	8099.0	4555.-2	2154.2	078.0	014.0
Variance of the ratio of earnings to return	560	1345.0	6278.0	0923.-2	4850.1	909.-0	030.0
Ratio of market value to book value	560	2809.0	3753.0	6444.-1	4478.1	146.0	248.1
Earning persistence	560	9732.0	1616.0	0000.0	0000.1	878.-5	662.32
Earnings response coefficient	560	9464.0	2253.0	0000.0	0000.1	976.-3	857.13

According to Table 1, the average value of the managers' compensation, as an independent variable, is -0.0927. The variable should have values of 0 and 3 in order to have a normal distribution. Analysis of the aforementioned values indicates that managers' compensation is a variable without normal distribution. According to the descriptive statistics presented in Table 1, the average value of the independent variable, earnings of sample companies, is equal to +0.0348 for the period under study. The variable should have values of 0 and 3 in order to have a normal distribution. Analysis of the aforementioned values indicates that earnings level is a variable with normal distribution. Moreover, the positive average values of control variables including corporate total return, the ratio of the variations of earning to variations of return, ratio of market value to book value, earnings persistence and earnings response coefficient are 0.0348, 0.1345, 0.2809, 0.9732, and 0.9464, respectively.

Examination of Normality of Distribution of Research Dependent Variables

Since the significance of the K-S statistic for managers' compensation is less than 0.05, the H0 hypothesis, which states that the distribution of the variables at a confidence level of 95% is normal, is rejected. Therefore, managers' compensation is a variable without normal distribution.

Table 2. Results of examination of normality of the research dependent variable

Variable	Number (N)	(K-S) statistic	Significance level (sig)
Managers compensation	560	457.10	000.0

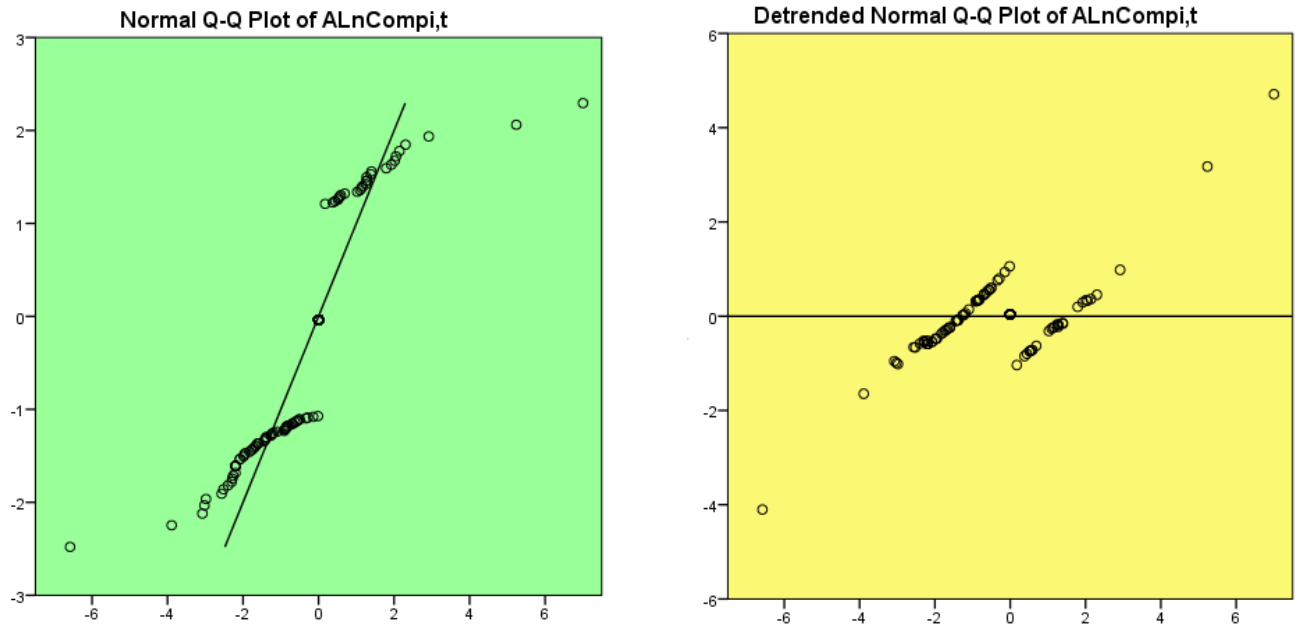

Diagram1. The non-normal distribution of managers' compensation

Diagram 1 (Q-Q plot) shows the non-normal distribution of the dependent variable. Normality of the dependent variable is the prerequisite for regression models. Therefore, before testing the hypotheses the variable (s) should be normalized. In this research the data is normalized using Johnson's Transformation Function. The analyses are also performed using MINITAB (ver. 16) software. The results obtained from the K-S test performed following to normalization of the data are illustrated in Table 3.

Table 3. Results of examination of the normality of the research dependent variable after the normalization process

Variable	Number (N)	(K-S) statistic	Significance level (sig)
Managers compensation	560	830.0	497.0

According to Table 3, since after data normalization the significance level (sig.) of the Kolmogorov-Smirnov statistic for managers' compensation is more than 0.05 (0.497), the H0 hypothesis is approved at a confidence level of 95%. This reflects the fact that managers' compensation is a variable with normal distribution following to the normalization process.

Diagram 2 (Q-Q plot) shows the normal distribution of dependent variables after normalizing the data using Johnson's Transformation Function.

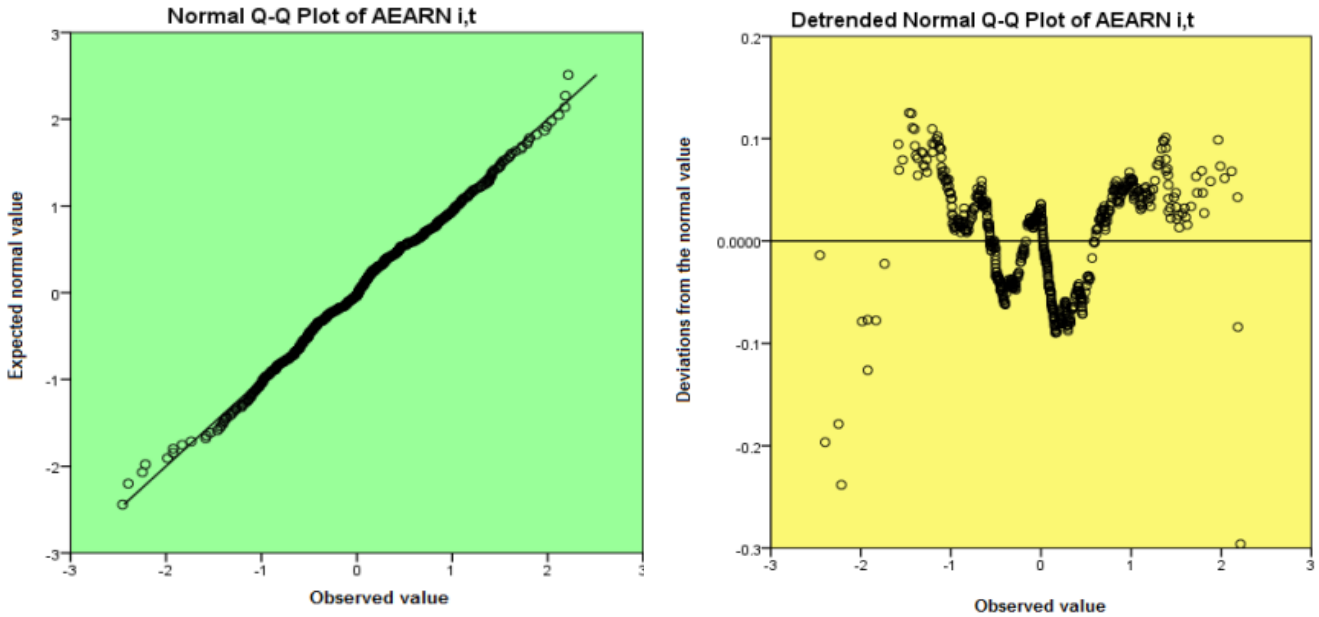

Diagram 2. The normal distribution of managers' compensation following to the normalization process

Analysis of Correlations among Research Variables

In this section, using Pearson's correlation coefficient the relationships or correlations between research variables is studied. The correlation coefficients matrix for the research variable is shown in Table 4. According to the results obtained using Pearson's correlation coefficient, there is a positive significant correlation between corporate earnings and total returns. In addition, there is also a positive significant relationship between earning persistence and ratio of market value to book value.

Analysis of Collinearity of Research Variables

In this section in order to examine the research hypothesis an estimation model is determined at the beginning. Next, the research model is estimated and results are interpreted. Moreover, statistical hypotheses for testing the research hypothesis are also analyzed and presented. The hypotheses include normality of remains, homoscedasticity in remains, independence of remains, and linearity of the model.

Results of Testing the Research Hypothesis

The objective of the research hypothesis is to study the relationship between managers' compensation and earnings. The statistical hypothesis for the research hypothesis is expressed as follows:

H0: There is no significant relationship between managers' compensation and earnings.

H1: There is a significant relationship between managers' compensation and earnings.

Table 4. Pearson's correlation coefficients matrix for research variables

	Managers' compensation	Earnings	Corporate total return	Ratio of the variations of earning to variations of return	Ratio of market value to book value	Earning persistence	Earnings response coefficient
Managers' compensation $(P-Value)$	1						
Earning $(P-Value)$	0.004 (0.922)	1					
Corporate total return $(P-Value)$	0.004 (0.922)	1.000 (0.000)	1				
Ratio of the variations of earning to variations of return $(P-Value)$	0.041 (0.338)	0.000 (0.998)	0.000 (0.998)	1			
Ratio of market value to book value $(P-Value)$	0.047 (0.265)	0.051 (0.228)	0.051 (0.228)	0.036 (0.391)	1		
Earning persistence $(P-Value)$	0.060 (0.153)	-0.039 (0.353)	-0.039 (0.353)	-0.025 (0.561)	0.092 (0.029)	1	
Earnings response coefficient $(P-Value)$	0.009 (0.831)	-0.012 (0.770)	-0.012 (0.770)	0.040 (0.344)	0.021 (0.620)	0.010 (0.820)	1

The hypothesis is examined using the following model and panel data. If the value of the coefficient at a confidence level of 95% is significant the hypothesis is approved.

In this model:

I: the company (sectional units);

T: year;

ΔLnComp: variations of compensations for the board of directors during period t compared to period t-1;

ΔEARN: variations of accounting income during period t compared to period t-1;

RET: corporate total returns

V (earn)/V (ret): ratio of the variation of earnings to variation of returns during the course of the research;

MB: ratio of market value to book value;

PERSIST: earning persistence;

ERC: earnings response coefficient;

Corporate i random error in year t;

DISCUSSION

Results of the Chow and Hausman tests on the research model are presented in Table 5. It shall be mentioned that the former test is performed to choose between panel data or combined data methods while the latter one is performed for identifying the effects of the fixed effects method or the random effects method on the panel data.

According to the results of the Chow test and its p-value (0.0263), the H0 hypothesis is rejected at a confidence level of 95%. Hence, the panel data method is a suitable method for this model. Moreover, according to the results of the Hausman test and its p-value (0.0209), which is less than 0.05, it can be said that the H0 hypothesis is rejected at a confidence level of 95% while the H1 hypothesis is approved. Therefore, the model shall be estimated using the fixed effects method. Results of the Jarque-Bera test performed on the classic regression hypotheses suggest that remains of estimation of the research model at the confidence level of 95% are normally distributed. Therefore, the probability of the test (0.5472) is bigger than 0.05. In addition, according to the significance level of the Breusch-Pagan test, which is bigger than 0.05 (0.0651) it can be said that the null hypothesis, which supports homoscedasticity, is approved. Hence, the problem is not involved with heteroscedasticity. In the autocorrelation test, remain of the model, which is tested using the Durbin-Watson statistic, is equal to 2.47. Since the value falls between 1.5 and 2.5, it can be concluded that the remains are independent. Moreover, since the significance level of the Ramsey test is bigger than 0.05 (0.7341), the null hypothesis (linearity of the model) is approved and the model is not involved with misspecification. Particulars of the results of the aforementioned tests are presented in Table 6.

Table 5. Results of the Chow and Hausman tests performed on the research model

Test	Statistic	Statistic value	Degree of freedom	P-Value
Chow	F	3239.1	(111،423)	0263.0
Hausman	χ^2	7311.26	14	0209.0

Table 6. Results of examinations of the statistical hypotheses of the research model

Ramsey statistic		Durbin-Watson statistic	Breusch-Pagan statistic		Jarque-Bera statistic	
$(P-Value)$	F	D	$(P-Value)$	F	$(P-Value)$	χ^2
7341.0	3093.0	47.2	0651.0	6384.1	5472.0	**2056.1**

According to the results of the Chow and Hausman tests as well as results of examination of the statistical classic regression hypotheses the research model is estimated using panel data and the fixed effects method. Results of the estimation are presented in Table 7.

Table 7. Results of examination of research hypothesis using the fixed effects method

Dependent variable: managers' compensation Number of observations: 560 year-company				
Variable	**Coefficient**	**t statistic**	**P-Value**	**Relationship**
Fixed component	-0.0135	-0.0252	0.0008	Negative
Earnings	0.5488	1.1634	0.0453	Positive
Earnings vs. variation of earnings to returns ratio	-0.0143	-0.2068	0.0362	Negative
Earnings vs. ratio of market value to book value	0.1482	1.6863	0.0225	Positive
Earnings vs. earning persistence	0.5964	1.2659	0.2062	Insignificant
Earnings vs. earning response coefficient	0.0204	0.9570	0.0091	Positive
Corporate total return	0.1358	0.3816	0.7029	Insignificant
Total return vs. variation of ratio of earnings to returns	-0.0646	-1.1036	0.2704	Insignificant
Total return vs. ratio of market value to book value (MB)	0.1319	1.5436	0.0000	Positive
Total return vs. earning persistence	-0.2879	-0.9557	0.3398	Insignificant
Total return vs. earning response coefficient	-0.0234	-0.1114	0.9113	Insignificant
Variation of the ratio of earnings to returns	0.0387	0.3715	0.0104	Positive
Ratio of market value to book value	0.1845	0.8910	0.3734	Insignificant
Earning persistence	-0.2342	-0.5565	0.5781	Insignificant
Earning response coefficient (ERC)	0.3043	0.9502	0.0025	Positive
Model coefficient of determination				0.2798
F statistic $(P-Value)$				1.2620 (0.0454)

The estimated version of the model processed in EVIEWS (ver. 7) software is as follows:

Since the probability value of the F statistic is smaller than 0.05 (0.0454), the significance of the entire model is approved at a confidence level of 95%. The model coefficient of determination also shows that 27.98% of managers' compensation is explained by variables introduced into the model.

According to the results presented in Table 7, since the probability value of the t statistic for the variant coefficient of earning is smaller than 0.05 (0.0453), there is a significant relationship between managers' compensation and earnings at a confidence level of 95%. Hence, the research hypothesis is approved and it can be said that there is a significant relationship between managers compensation and earnings (confidence level=95%). The positivity of the coefficient (0.5488) reveals that there is a direct relationship between managers' compensation and earnings. Hence, a 1 unit increase in the earnings leads to a 0.5488 unit increase in managers' compensation.

General Conclusion

Since the probability value of the F statistic is smaller than 0.05 (0.0454), the significance of the entire model is approved at a confidence level of 95%. The model determination coefficient also shows that 27.98% of managers' compensation is explained by variables introduced into the model. In addition, according to the contents of Table 7, since the probability value of the t statistic for earnings variable is less than 0.05 (0.0453), there is a significant relationship between managers' compensation and earnings at a confidence level of 95%. Hence, the research hypothesis is approved and it can be claimed that there is a significant relationship between

managers' compensation and earnings (confidence level=95%). Positivity of the associated coefficient (0.5488) suggests that there is a direct relationship between managers' compensation and earnings. Therefore, a 1 unit increase in the earnings leads to a 0.5488 unit increase in the managers' compensation.

REFERENCES

Arya, A., J.C., Glover. & Sunder, S. (2008). Are unmanaged earnings always better for shareholders? Accounting Horizons 17: 111-116.

Bushman, R.M., Engel, E. & Smith, A. (2006). An analysis of the relation between the stewardship and valuation roles of earnings. Journal of Accounting Research, 44 (1): 53–83.

Kormendi, R. & Lipe, R. (1987). Earnings innovations, earnings persistence, and stock returns. Journal of Business, 60 (3): 323–345.

Moment, M. & Fa'al Qayumi, Ali. (2007). Analysis of statistical data in SPSS. Ketab-e-No Publications.

Mo'meni, M.r & Fa'al Qayumi, A. (2011). Analysis of statistical data in SPSS. Terhmeh Publications.

Namazi, M. (2006). Costing in service firms. Association of Iranian Chartered Accountants, Tehran, May 22-June 21: 18.

Namazi, M. (2006). Evolution of balanced assessment. Journal of Humanities and Social Sciences. University of Mazandaran, spring, 162.

Namazi, M. & Sirani, M. (2004). Empirical analysis of structures important in contracts, indicators, and parameters of compensations for CEOs of Iranian companies. Journal of Accounting Studies and Auditing, summer, 167.

Natarajan, R. (1992)."The Use of Discretionary Accounting Reports in Management Compensation Contracts", University of Pennsylvania.

Nourvash. & Husseini. (2009). Analysis of the relationship between quality of disclosure (reliability and timeliness) and earnings management. Journal of Accounting Studies and Auditing, 55, 2009.

Peng, E.Y (2011). Accruals quality and the incentive contracting role of earnings.J. Account. Public Policy 30 (2011) 460–480

Shalev.R. Zhang, I. & Zhang, Y. (2011).Yong CEO compensation and fair value accounting: Evidence from purchase price allocation. Olin Business School Washington University, St. Louis, MO 63130

Thaqafi, A. & Kurdestani, Q. (2004). Analysis and clarification of the relationship between earnings quality and market response to variations of dividends. Journal of Accounting Studies and Auditing, 37, autumn, 2004.