PalArch's Journal of Archaeology of Egypt / Egyptology

INVESTIGATING THE EFFECT OF THE CEO PAY RATIO ON THE FINANCIAL REPORTING QUALITY IN COMPANIES ACCEPTED IN THE TEHRAN STOCK EXCHANGE

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Ali Tarkhorani, Peyman Boroumand, Nasim Davoodifar: Investigating the Effect of the CEO Pay Ratio on the Financial Reporting Quality in Companies Accepted in the Tehran Stock Exchange -- Palarch's Journal Of Archaeology Of Egypt/Egyptology 18(4). ISSN 1567-214x

Keywords: CEO pay Ratio, Financial Reporting Quality, Tehran Stock Exchange

ABSTRACT

Financial reporting is one of the sources of information available in capital markets that is expected to play an effective role in developing investment and increasing its efficiency. Improving the quality of financial reporting is a tool to fulfill the responsibility of meeting the needs of society. In this thesis, it has been tried to investigate the effect of the CEO Pay Ratio on the Financial Reporting Quality in companies accepted in the Tehran Stock Exchange. After designing the evaluation indicators of the variables, the information of transactions made in the five-year research period from 2014 to 2018 was collected from the Stock Exchange Organization, the Rahvard Novin software, and the Codal.ir website. The statistical sample consists of 223 companies that have been selected by systematic elimination method, which were totally 1,115 firm-year. This research is a descriptive research in terms of applied purpose and in terms of nature with emphasis on correlation relations. In addition, it falls within the scope of post-event studies. Eviews software has been used to analyze the data and to test the research hypotheses. What can be said in the summary and general conclusion of the research hypotheses test is that the CEO pay ratio has a significant effect on the financial reporting quality. The results obtained in this research are consistent with the documents mentioned in the research theoretical framework and financial literature.

INTRODUCTION

Financial reporting is one of the sources of information available in capital markets that is expected to play an effective role in developing investment and increasing its efficiency. Improving the financial reporting quality is a tool to fulfill the responsibility of meeting the needs of society. With all these interpretations, the quality of financial reporting is a

multidimensional concept and there is no definition that everyone agrees on (Kiani and Aghaei, 2016). The quality of financial reporting helps to better predict the future cash flows of the company for investors and other users of financial statements. Given that accounting and economics have interactions with each other, the level of financial reporting quality has economic implications. The usefulness of financial statements or other financial statements is affected by the quality of financial reporting, in which consistency and clarity of information are essential aspects of quality (Kurdistani and Rahimi, 2011). The quality of financial reporting is the criteria that distinguish useful information from other information and enhance the usefulness of financial information (Noravesh, 1998). Clearly, legislators and investors agree on high quality financial reporting; Because it is widely believed that the quality of financial reporting directly affects capital markets (Kurdistani and Rahimi, 2011).

Now, considering the presented materials and also the lack of comprehensive research on the relationship between CEO pay ratio with the company's financial reporting quality, therefore, the main purpose of this study is to investigate the impact of CEO pay ratio on the financial reporting quality in the companies listed on the Tehran Stock Exchange. Therefore, the main question that this research faces is "Do the CEO pay ratio have a significant effect on the financial reporting quality in companies listed on the Tehran Stock Exchange or not?"

Theoretical Framework of the Research Model

The existence of transparent and comparable financial information is one of the important pillars of accountability and informed decisions and is effective in economic growth and development. Although financial information can be extracted from a variety of sources, financial statements are now the primary core of financial information sources. Accountants are responsible for preparing and submitting these statements, and accounting as an information system is based on the processing and analysis of financial information. Financial statements are the center of gravity and focus of financial reports and information. Financial statements are a tool for accountability and decision making. These forms are useful in decision making and accountability when they are reliable, transparent and of appropriate quality. It is natural that good quality financial information has a positive effect on decisions and the optimal allocation of resources and market efficiency, which in turn leads to growth, development and social welfare (Abri and Mohammadzade Salteh, 2017). Therefore, according to the presented theoretical foundations, we present the research hypotheses as follows:

- The First Main Hypothesis: The Pay Equity (P-Ratio) has a significant effect on the financial reporting quality of companies listed on the Tehran Stock Exchange.
- The Second Main Hypothesis: The Pay Inequity (R-Ratio) has a significant effect on the financial reporting quality of companies listed on the Tehran Stock Exchange.

RESEARCH METHOD

The present research is "applied" in terms of execution purpose, "quantitative" in terms of data type, "cross-sectional" in terms of execution time, and "inductive" in terms of execution logic. Also, the research method is "descriptive, survey and of correlation type" in terms of execution method.

The statistical population of this research is the number of companies accepted in the Tehran Stock Exchange at the end of 2018, which has been equal to 810 companies.

Presuppositions:

1- Number of companies whose financial information is incomplete (293).

2- Number of companies whose financial period has changed (8).

3- Due to the different nature of revenues and expenses, the number of companies that have been investors (28).

4- Number of companies that are among the banking and insurance industries (39).

5- In order to homogenize the statistical sample, the number of companies whose fiscal year does not end in March 19th is (219).

Total population under study is (223).

Therefore, according to the items of paragraphs 1 to 5, 223 companies were selected as a research sample and by systematic elimination method and for each variable of this research, 1,115 data-years have been calculated to test statistical hypotheses.

Research Model and Method of Measuring Variables

In the present research, according to the main research question, which is whether CEO pay ratio has a significant effect on the financial reporting quality, the following hypotheses have been designed:

The First Main Hypothesis: The Pay Equity (P-Ratio) has a significant effect on the financial reporting quality of companies listed on the Tehran Stock Exchange

The Second Main Hypothesis: The Pay Inequity (R-Ratio) has a significant effect on the financial reporting quality of companies listed on the Tehran Stock Exchange.

Regression Models:

$$FRQ_{it} = \gamma_0 + \gamma_1 \text{PAY Equity}_{it} + \gamma_2 \text{PAY Inequity}_{it} + \gamma_3 LEV_{it} + \gamma_4 SIZE_{it} + \gamma_5 MTB_{it} + \gamma_6 ROA_{it} + \varepsilon_{it} \quad (1)$$

In which:

FRQ_{it}= Financial reporting quality (dependent)

PAY Equity_{it} = Economic Salaries and Benefits of Managers (independent)

PAY Inequity_{it} = Non-Economic Salaries and Benefits of Managers (independent)

$SIZE_{it}$= Company size (control)

MTB_{it} = Market value to Book value ratio (control)

= Return on assets (control)ROA_{it}

LEV_{it}= Financial leverage (control)

ε_{it} = Model error

Variables Measurement Method:

FRQ_{it}= Financial reporting quality (dependent)

To measure the financial reporting quality, various indicators and criteria such as Kothari et al. (2005), Kasznik (1999), McNichols and Stubben (2008) have been presented. In this research, in order to measure the financial reporting quality, adjusted discretionary accruals based on performance presented by Kothari et al. (2005) is used:

$$TAccr_{i.t} = \alpha_0 + \alpha_1 \left(\frac{1}{Assets_{i.t-1}}\right) + \alpha_2 \Delta Rev_{i.t} + \alpha_3 PPE_{i.t} + \alpha_4 ROA_{i.t} + \varepsilon_{i.t} \quad (3)$$

That in this equation, TA represents the sum of accruals that can be calculated as follows:

$$TA_{i.t} = (\Delta CA_{i.t} - \Delta CASH_{i.t} - \Delta CL_{i.t} + \Delta STDEBT_{i.t} - DEPN_{i.t}) \quad (4)$$

In the above models we will have:

TAi.t: Total accruals of Company i in year t

$\Delta CA_{i.t}$: Changes in the current assets of Company i in year t

$\Delta CASH_{i.t}$: Cash changes of Company i in year t

$\Delta CL_{i.t}$: Changes in the current liabilities of Company i in year t

$\Delta STDEBT_{i.t}$: Changes in the short-term facilities or current portion of Company i in year t

$DEPN_{i.t}$: Depreciation expense of tangible and intangible assets of Company i in year t

Also

$Assets_{i.t-1}$: Assets at the beginning of period of Company i in year t

$TAccr_{i.t}$: Total accruals of Company i in year t divided by assets at the beginning of the period

$\Delta Rev_{i.t}$: Annual change in operational incomes divided by total assets at the beginning of the period

$PPE_{i.t}$: Properties, machineries and equipment of Company i in year t divided by assets at the beginning of the period

$ROA_{i.t}$: Return on assets for company i in year t divided by assets at the beginning of the period.

The remainder of the above regression represents the discretionary accruals that should be calculated in terms of industry to industry and composite data. The absolute value of the discretionary accruals values is multiplied by minus one. Therefore, higher values indicate a higher financial reporting quality (Taghizadeh Khaneghah and Zeinali, 2015; Kothari et al., 2005).

$$DisAccr = -|\varepsilon_{i,t}|$$

PAY Equity_{it} = Economic Salaries and Benefits of Managers (independent)

The logarithm is the sum of salaries and cash rewards received by the directors of company i during year t (Bao et al., 2020).

PAY Inequity_{it} = Non-Economic Salaries and Benefits of Managers (independent)

To calculate the variable of managers' non-economic salaries and benefits, we first perform the following regression:

$$PAY\ Equity_t = \alpha_0 + \alpha_1 Leverage_t + \alpha_2 MTB_t + \alpha_3 FIRMAGE_t + \alpha_4 SIZE_t + \alpha_5 ROA_t + \varepsilon_t$$

The residual of the above regression is equal to the non-economic salaries and benefits of managers (Bao et al., 2020),

In which:

PAY Equity_{it} = Economic Salaries and Benefits of Managers (independent)

MTB_{it}= Market value to Book value ratio (control)

LEV_{it}= Financial leverage (control)

$SIZE_{it}$= Company size (control)

ROA_{it}= Return on assets (control)

FA_{it}= Firm Age which is equal to the years of activity of the company from the establishment to the desired year (control)

Data Collection Method

The method of data collection in this research was library method, using the Rahavard Novin software and by referring to the Tehran Stock Exchange Organization and studying the basic financial statements of companies accepted in the Tehran Stock Exchange during the years 2014-2018. In this regard, in addition to studying the basic financial statements, information related to the financial statements from the stock exchange information site has been used.

Data Analysis Method

In the data analysis, descriptive statistics and inferential statistics were used.

RESULTS AND FINDINGS

Variables Descriptive Indicators

Table 1: Descriptive Statistics of Variables under Investigation of the Companies

	FRQ	Pay Equity	Pay Inequity	Size	MTB	ROA	Leverage
Mean	-0.101105	6.337564	-0.000105	14.52771	0.340099	0.096905	0.649689
Median	-0.067260	6.859615	0.026946	14.35906	2.341321	0.061145	0.591847
Maximum	-0.001190	14.28551	4.940689	19.77805	102.7260	2.373475	8.018950
Minimum	-0.689440	-2.995732	-7.257079	9.632400	-2543.000	-1.647663	0.034913
Standard Deviation	0.102361	3.738428	1.201748	1.631101	77.22697	0.245835	0.441976
Skewness	-2.006802	-0.353831	-0.258502	0.506435	-32.72477	1.235509	6.973385
Kurtosis	8.091934	2.361222	6.323018	3.383720	1078.248	20.05080	90.82431

Source: Researcher's Findings

Table (1) contains the main central indicators and dispersion. The mean which indicates the equilibrium point and the center of gravity of the distribution and is a good indicator to show the centrality of the data, is equal to -0.101105 for the financial reporting quality variable. Median is another central indicator that shows the status of population and shows that half of the data is less than this value and the other half is more than this value. Also, the equality of the value of mean and median shows the normality of this variable that for the variable of financial reporting quality is -0.067260. Dispersion indicators are the criteria to determine the dispersion ratio of data from each other or their dispersion ratio relative to the mean. Standard deviation is one of the most important indicators of dispersion, which is equal to 0.102361 for the financial reporting quality variable. The asymmetry ratio of the frequency curve is called skewness. If the skewness coefficient is zero, the population is completely symmetrical, and if this coefficient is positive, the skewness is to the right, and if the coefficient is negative, it has skewness to the left. The value of skewness coefficient for the financial reporting quality is negative, indicating that skewness is to the left. Dispersion indicator of the ratio of elongation or inclination of frequency curve relative to the standard normal curve is called protrusion or elongation. If the elongation is about zero, it means that the frequency curve has a balanced and normal status in terms of elongation, if this value is positive, the curve is protruded and if it is negative, the curve is wide. In this research, the elongation is positive for all variables.

Investigating the Normality of Variables

In this research, the dependent variable has been tested using the Jarque-bera test for normality. Since the normality of the variable depends on the normality of the residuals of the pattern, it is necessary to check its normality before fitting the pattern. The null hypothesis and the hypothesis opposite to the normality test are as follows:

H_0: Data distribution is normal
H_1: Data distribution is not normal

Table 2: Investigating the normality of research variables

Variable	Jarque-Bera	Probability
FRQ	1914.426	0.000000
Pay Equity	41.38930	0.000000
Pay Inequity	515.0644	0.000000
Size	53.42714	0.000000
MTB	52848476	0.000000
ROA	13518.40	0.000000
LEV	360126.3	0.000000

Based on the values presented in Table (2), since the values of the significance level of the variable of financial reporting quality are less than 5%, therefore, the assumption of one means that the variable is not normal is confirmed. Therefore, the reporting quality variable does not have a normal distribution, but according to the central limit theorem, if the number of data is large (above 30 data), the data distribution is normal and we can use parametric tests.

Regression Assumptions

After examining the durability of the variables, now it is time to estimate the method. The data of this research are of composite type. But before estimating the models, it is necessary to specify the estimation method (composite or panel). For this purpose, the F-Limer test has been used. For observations with a probability of more than 5%, or in other words, their test statistic is less than the table statistic, the composite method is used, and for observations with a test probability of less than 5%, to estimate the model the panel method will be used. The panel method itself can be performed using the two models of "random effects" and "fixed effects". The Hausmann test has been used to determine which model to use. In observations with a test probability of less than 5%, the fixed effects model and in observations with a probability of more than 5%, the random effects model are used to estimate the model.

Diagnostic Tests in Composite Data:

To determine the model used in the composite data, the F-Limer and Hausman tests have been used. The F-Limer test has been performed to determine using the panel effects model versus the combination of all the data, and its hypotheses are as follows

H_0: Composite Method:
H_1: Panel Method

Hypothesis H_0 is based on the absence of individual and group effects and hypothesis H_1 is based on the presence of individual and group effects. The Hausman test is also performed to determine the use of fixed effects model versus the random effect model. The Hausmann test has been formed based on the presence or absence of a relationship between regression error and the independent variables of the model. If such a relationship exists, the fixed effect model will apply, and if this relationship does not exist, the random effect model will apply. Hypothesis H_0 indicates

the lack of relationship between the independent variables and estimation error, and Hypothesis H_1 indicates the existence of a relationship.

H_0: Random Effects Method
H_1: Fixed Effects Method

To determine the estimation method, the F-Limer and Hausmann tests have been performed for the general model. The test results are as follows:

Table 3: Results of F-Limer and Hausman Test

	F-Limer Test	Significance Level	Result	Hausmann Test	Significance Level	Result
Main Hypothesis Model 1	1.528388	0.0000	Panel	27.585750	0.0001	Fixed Effects

Source: Researcher's Findings

As it is observed, the F-Limer test shows that in observations whose test probability is more than 5%, or in other words, their test statistic is less than the table statistic, composite method is used, and for observations whose test probability is less than 5%, to estimate the model, panel data method will be used. According to the obtained results, the panel data method has been accepted for general model. On the other hand, the Hausman test shows that observations whose test probability is more than 5%, it will be random effects, and for observations whose test probability is less than 5%, it will be fixed effects. According to the results, the effects of the model are constant.

Hypothesis Analysis

To comment on the hypotheses, the following model is defined:

$$FRQ_{it} = \gamma_0 + \gamma_1 PAY\ Equity_{it} + \gamma_2 PAY\ Inequity_{it} + \gamma_3 LEV_{it} + \gamma_4 SIZE_{it} + \gamma_5 MTB_{it} + \gamma_6 ROA_{it} + \varepsilon_{it}$$

Table 4: Summary of the results of the main model using the data panel method during the years 2014-2018

Variable	Coefficients	Standard Error	T-Statistics	Probability	Result
Y-Intercept	-0.768465	0.284929	-2.697043	0.0071	Negative
Pay Equity	-0.120538	0.045975	-2.621825	0.0089	Negative
Pay Inequity	0.123883	0.046051	2.690106	0.0073	Positive
Firm Size	0.094421	0.036498	2.587013	0.0098	Positive
Market Value to Book Value Ratio	3.90E-05	4.67E-05	0.834400	0.4043	meaningless
Return on Assets	0.055349	0.040724	1.359113	0.1745	meaningless
Financial Leverage	0.083411	0.026566	3.139757	0.0017	Positive
Determination Coefficient		1.659153	F-Statistics		1.659153
Adjusted Determination Coefficient		0.000000	Probability		0.000000
		Durbin–Watson	2.128684		

Source: Researcher's Findings

The results obtained from estimation show that the probability of t-statistic for fixed coefficient and the coefficients of the variables of

accounting comparability, operation cycle and company size is less than 5%; therefore, the above relationship is statistically significant and the probability of t-statistic for the variables of institutional ownership, audit firm size, book value to stock market value ratio, return on assets, financial leverage and sales revenue changes is more than 5%. Therefore, the estimation coefficient of the above variables is not statistically significant. Thus, with 95% confidence, these variables are insignificant in the regression model. Adjusted determination coefficient shows the explanatory power of the independent variable, which is able to explain 16% of the dependent variable changes. The probability of F statistic indicates that the whole model is statistically significant. According to the hypothesis, as the variables of the comparability of accounting information, company size and operation cycle are significant in the model, so the hypothesis H_0 is rejected, that is the comparability of financial statements affects the financial reporting quality.

According to Table (4), the linear equation of the model can be written as equation (1):

FRQ = -0.768465 -0.120538 Pay Equity + 0.123883 Pay Inequity + 0.094421 Size + *3.90*E-*05* MTB + 0.055349 ROA + 0.083411 LEV

The First Main Hypothesis: The Pay Equity (P-Ratio) has a significant effect on the financial reporting quality of companies listed on the Tehran Stock Exchange

H_0: The Pay Equity does not affect the Financial Reporting Quality.

H_1: The Pay Equity affects the Financial Reporting Quality.

The results of the estimation show that the probability of t-statistic for the constant coefficient and coefficients of the variables of Pay Equity, Pay Inequity, Firm size and financial Leverage is less than 5%; Therefore, the above relationship is statistically significant and the probability of t-statistic for the coefficient of variable ratio of market value to book value of stocks is more than 5%. Therefore, the estimated coefficient of the above variable is not statistically significant. Therefore, with 95% confidence, this variable is meaningless in the regression model. The adjusted coefficient of determination shows the explanatory power of the independent variable, which is able to explain the changes of the dependent variable by 12%. The probability of F-statistic indicates that the whole model is statistically significant. According to the hypothesis, because the variable of Pay Equity is significant in the model, then hypothesis H0 is rejected, that is mean P-Ratio affect the financial reporting quality.

The Second Main Hypothesis: The Pay Inequity (R-Ratio) has a significant effect on the financial reporting quality of companies listed on the Tehran Stock Exchange.

H0: The Pay Inequity does not affect the Financial Reporting Quality

H1: The Pay Inequity affects the Financial Reporting Quality.

The results of the estimation in Table (4) showed that the probability of t-statistic for constant coefficient and coefficients of variables

of Pay equity, Pay inequity, firm size and financial leverage is less than 5%; Therefore, the above relationship is statistically significant and the probability of t-statistic for the coefficient of variable ratio of market value to book value of the company's stock is more than 5%, so the estimated coefficient of the above variable is not statistically significant. Therefore, with 95% confidence, this variable is meaningless in the regression model. The modified coefficient of determination shows the explanatory power of the independent variable, which is able to explain 12% of the changes of the dependent variable. The probability of F-statistic indicates that the whole model is statistically significant. According to the hypothesis, because the variable of Pay Inequity in the model is significant, so the hypothesis H0 is rejected, that is mean the R-Ratio affect the financial reporting quality of the company.

DISCUSSION AND CONCLUSION

The purpose of this study was to investigate the effect of CEO Pay Ratio on the financial reporting quality of companies listed on the Tehran Stock Exchange. According to the regression results, the following results were obtained:

1- The Pay Equity affects the financial reporting quality.

2- The Pay Inequity affects the financial reporting quality.

According to the tests and analyzes performed through regression and correlation, and based on the results of the hypotheses, we concluded that the CEO pay Ratio has a significant effect on the financial reporting quality, so the research hypotheses are generally accepted. It can be said that the CEO pay ratio affect the financial reporting quality. Bao et al,. (2019) in a research study found that the unconditional relationship between the CEO pay ratio and financial quality is negative, the sign of this relationship is sensitive to CEO power and competence. Our findings suggest that the pay ratio does shed light on the fairness of compensation structures that In some ways, it is in line with the results of the present study.

According to the results of examining the hypotheses, since the salaries and benefits of managers affect the quality of financial reporting, it is suggested that users of financial statements want more information transparency about salaries and bonuses and benefits paid to managers of companies and companies should also pay more attention to this issue.

REFERENCES

Abri, Karim, Mohammadzade Salteh, Heidar, (2017), “The Impact of Comparability of Financial Statements on the Quality of Financial Reporting with Emphasis on Information Asymmetry”, First National Conference on the Role of Accounting, Economics and Management.

Bao, May Xiaoyan, Cheng, Xiaoyan, Smith, David, (2019), “CEO pay ratios and financial reporting quality”, Global Finance Journal, https://doi.org/10.1016/ j.gfj.2019.100506

Bao, May Xiaoyan, Cheng, Xiaoyan, Smith, David, (2020), “A path analysis investigation of the relationships between CEO pay ratios

and firm performance mediated by employee satisfication", Advances in accounting, https://doi.org/10.1016/j.adiac.2020.100457

Kasznik RO_ 1999. On the association between voluntary disclosure and eammgs management. Journal of Accounting Research, 37: 57-81.

Kiani, Aydin, Aghaei, Mohammad Ali, (2016), "Evaluating the Usefulness of Financial Reporting Quality Measurement Criteria on Future Growth in the Life Cycle Process of Companies", Applied Researches in Financial Reporting, Vol., No. 9, 715-728

Kothari S.P, Leone AN, Wasley CH, (2005), "Performance matched discretionary accrual measures", Joumal of Accounting and Economics, 39: 163-197

Kurdistani, Gholamreza, Rahimi, Mustafa, (2011), "Investigating Factors Determining the Selection of Financial Reporting Quality Level and Its Economic Effects on the Capital Market", Empirical Researches in Financial Accounting, Vol. 1, , No. 1, 67¬-91

Mcnichols MA, Stubben ST, (2008), "Does eamings management affect firms' investment decisions?", American Accounting Association, 83: 1571—1603

Noravesh, Iraj, (1998), "Relationship between the quality of financial reporting and the number of trained accountants in commercial units listed on the Tehran Stock Exchange", Accounting and auditing reviews, No24and25, pp 8-33

Taghizadeh Khaneghah, and Zeinali, M. (2015), "The Role of Financial Reporting Quality in Reducing the Limiting Effects of Dividend on Companies' Investment in the Life Cycle Stages", Accounting and Auditing Investigations, No. 2, pp. 161-182.