INTERNATIONAL JOURNAL OF TRANSFORMATIONS IN BUSINESS MANAGEMENT

INVESTIGATING RELATIONSHIP BETWEEN CHANGES IN CORPORATE GOVERNANCE CHARACTERISTICS AND PROFIT QUALITY

Thaer Najm Kadhim

Iraq

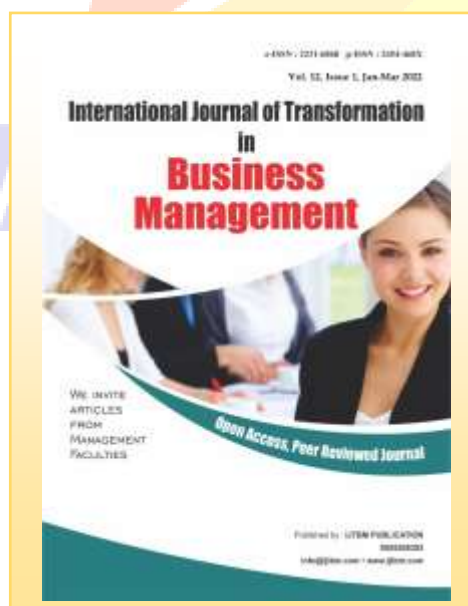**ABSTRACT**

The main purpose of this study is to investigate the relationship between changes in corporate governance characteristics of profit quality in companies listed on the Tehran Stock Exchange. In this study, changes in the characteristics of corporate governance include changes in the independence of the board of directors, CEO, auditor and concentration of ownership, and the Kothari (2005) model has been used to measure the quality of profits. The statistical population of the study includes 161 companies listed on the Tehran Stock Exchange and the period is from 2010 until 2015.

The tests were performed at the general level of companies, small companies and large companies. The research findings indicate that in general, there is a negative and significant relationship between changes in corporate governance characteristics, i.e. changes in CEO, auditor and ownership concentration with profit quality at the general level of companies. But in large corporations, no relationship was found between changes in board independence and ownership concentration with profit quality. Also, there is a negative and significant relationship between the changes of the CEO and the auditor with the quality of profits at the level of large companies. In addition, no significant relationship was found between changes in corporate governance and profit quality at the level of small companies.

Keywords: *Corporate Governance Changes, Profit Quality, Company Size*

INTRODUCTION

Corporate governance is defined as the set of relationships between the board of directors, the CEO, shareholders and all stakeholders (including employees) that serve the interests of all stakeholders. Companies usually tend to accept the set of corporate governance characteristics and follow the rules of corporate governance after considering the cost-benefit. Now the question is whether the observance of corporate governance will make companies more flexible or not? The theory of signalling states that managers consider disclosure of corporate governance explanations as a negative sign for the company (Oliveira et al. 2006). Small companies are particularly sensitive to non-compliance with corporate governance characteristics, because according to signalling theory, these companies are usually young and less well-known and have a higher inherent risk. They are under more pressure to expose non-compliance (Gertler & Gilchrist, 1994).

It is necessary to improve the characteristics of corporate governance in order to enhance the value of the company and its level of accountability. Accordingly, the relationship between financial performance and improvement in characteristics will be examined as an indicator for the value and quality of profits at the level of small and

large companies. In this study, changes (improvements) in corporate governance characteristics regarding the independence of the board of directors, CEO, auditor and concentration of ownership (major shareholders) are examined and their impact on profit quality is measured. This survey will be conducted at the general level of companies, large and small companies. The selection of large and small companies is based on the average total assets and sales of the companies.

THEORETICAL BASICS OF RESEARCH

Agency theory is often used to consider the benefits that corporate governance can bring. According to agency theory, establishing good corporate governance is essential to oversee managers and safeguard shareholder interests, as it reduces opportunistic behaviors and agency costs (Fama and Jensen 1983; Schleifer & Vishni 1997). Also, one of the components of proper corporate governance is the independent supervision of the board of directors. In contrast, according to management theory, managers are honest and have effective management of corporate resources (Donaldson 1990; Donaldson & Davis 1994; Nicholson & **Kiel 2007;** Kent et al. 2010). Therefore, more control over them is likely to reduce the effectiveness of corporate governance. Previous research has concluded that corporate governance

mechanisms should be balanced by considering the supervisory role and the managerial role of management, and this balance reaches a more appropriate level by considering the size of the company (Dedman 2000; Ward et al. 2009). Given that smaller companies need less oversight; it is assumed that they will be more inclined to the managerial role of managers.

Larger companies, on the other hand, generally have more complex operations and have more diversity in their shareholders than smaller companies. As a result, larger companies will need more board oversights and more resources and expertise (Coles et al. 2008; Link et al. 2008). This relationship between the complexity of activities and governance in research (Boone et al. 2007) has been referred to as the "scope of activities". Therefore, this study seeks to examine the changes (improvements) in corporate governance characteristics regarding the independence of the board of directors, CEO, auditor and ownership concentration at the "small and large corporate level" and their impact on profit quality.

Research Hypotheses

Based on the theoretical basics presented in the previous sections, the hypotheses are formulated as follows:

Hypothesis 1: There is a significant relationship between changes in corporate governance and profit quality at the general level of companies.

Hypothesis 2: There is a significant relationship between changes in corporate governance and profit quality at the level of large companies.

Hypothesis 3: There is a significant relationship between changes in corporate governance and profit quality at the level of small companies.

In this study, there are used four variables including changes in the independence of the board of directors, CEO, auditor and concentration of ownership to examine changes in corporate governance. Therefore, each of the above general hypotheses becomes four sub-hypotheses and finally 12 hypotheses are examined.

In order to determine large and small companies, similar to the research (Hopkins 1988), the average total assets and sales of the company will be used. Thus, 0.33 above of this average is recognized as large companies and 0.33 below of this average is recognized as small companies.

RESEARCH METHODOLOGY

The methodology of this research is regression in terms of nature and content, which analyzes the effect of variables using secondary data extracted from the financial statements of companies listed on the Tehran Stock Exchange. This research will be conducted in the framework of deductive-inductive reasoning. On the other hand, the present study is post-event (semi-experimental). Also, this research is a type of library studies and causal analysis based on combined data analysis. The present study is considered as an applied goal and as a descriptive regression method.

Statistical Population and Sampling Method

The statistical population of the present study is all companies listed on the Tehran Stock Exchange. In this study, the available community was identified based on the following criteria:

1- Their financial period should end on March 20.

2- There is no change in the fiscal year during the period under this study (2015-2010).

3- Its financial information is available.

4. It should not belong to financial companies (such as banks, financial institutions) and investment companies or financial intermediation companies.

5- The company should continue its activities during the research period.

Thus, the statistical population of the research consists of 161 companies listed on the stock exchange.

Research Model

Kothari et al. (2005) adjusted the Jones model by adding the return on asset (ROA) as a control variable. In previous research, Patricia M. Dechow et al. 1995; Kothari et al. 2005 has concluded that the Jones model is not suitable for units with good or poor performance. Kothari et al. (2005), in various studies, showed that Jones models are not paying attention to the growth and performance of the company and the optional commitment items resulted from these models are not correct and accurate.

The following model is used to test research hypotheses:

Earning quality$_{it}$ = β_0 + β_1 B_Ind Change$_{it}$ + β_2 CEO Change$_{it}$ + β_3 Audit Change$_{it}$ + β_4 Owner Change$_{it}$ + β_5Size$_{it}$ + β_6Leverage + β_7YEAR + β_8Industry + ε

MEASURING RESEARCH VARIABLES

The dependent variables

Dependent variables in this study (Earning qualityit): In this study, the remainder of the model is used to measure the quality of earnings (Kothari et al. 2005). According to their model, it is a higher quality profit that has less accruals.

The structure of the model (Kothari et al. 2005) is as follow:

$$TACC_{it} = \beta_1 INVERSETA_{it} + \beta_2(\Delta REV_{it} - \Delta REC_{it}) + \beta_3 PPE_{it} + \beta_4 ROA_{it} + \varepsilon$$

TACC: It is equal of the net profit less operating cash divided by the assets at the beginning of the period

INVERSETA: It is equal to a division of the assets at the beginning of the period

ΔREV: It is equal to the change in the company's income compared to the previous year, divided by the assets at the beginning of the period

ΔREC: It is equal to the change in accounts receivable compared to the previous year divided by the assets at the beginning of the period

PPE: It is equal to the sum of machinery, property and equipment divided by the assets at the beginning of the period

ROA: It is equal to the profit after tax deducted from the assets at the beginning of the period

Independent Variables

The independent variables in this study are as follows:

A: (B-Ind Changeit): it is equal to 1 if the amount of board independence increases compared to the previous year, otherwise it

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takes zero. In this definition, the ratio of non-executive members of the Board of Directors to the total number of members of the Board of Directors is considered as the independence of the Board of Directors.

B: (CEO Changeit): is equal to 1 if the CEO has changed compared to the previous year, otherwise it will be zero.

C: (Audit Changeit): is equal to 1 if the company changes the large auditory institution (organization of auditory) to small auditory institution, otherwise it will be zero.

D: (Owner Changeit): It is equal to 1 if the concentration of ownership of the company (major shareholders more than 5%) increases compared to the previous year, otherwise it will be zero.

Control Variables

Following previous research, the control variables in this study are as follows:

A) Size of the company (Sizeit): is equal to the natural logarithm of the total assets of the company.

B) Company financial leverage (Leverageit): equal to the total liabilities divided by the total assets of the company.

C) Yearit effect: Control of year effects in the relevant model.

D) Industryit effect (Industryit): controlling the effects of industry in the relevant model.

RESEARCH FINDINGS

Descriptive statistics of research variables

Descriptive results of this study including mean, median, standard deviation, minimum and maximum observations at the general level of companies, large companies and small companies are presented in the following table.

Table 1: Descriptive statistics of the research variables al general level of companies

Type of variable	name of variable	observations	mean	median	deviation	maximum	minimum
	Quality of benefit	966	0.093	0.062	0.133	1.876	0.0001
	Company size-logarithm	966	14.065	13.866	0.757	19.106	10.031
	Financial leverage	966	0.613	0.621	0.213	1.565	0.090
Qualitative	B-Ind Change/83 B-Ind Change	966	0.085	0	0.280	1	0
	CEO change	966	0.267	0	0.442	1	0

Audit change	966	0.027	0	0.164	1	0
Owner change	966	0.383	0	0.486	1	0

According to Table 1, in relation to the dependent variables used in this study, it is observed that the average quality of profit in the general level of companies is 0.093. Regarding the independent variables of the research, the results of the table above indicate that the changes of board independence, change of CEO, change of auditor and changes of ownership in the general level of companies have an average of 0.085, 0.267, 0.027 and 0.383, respectively. Also, the average size of the company and financial leverage are 14.065 and 0.613, respectively. The lack of large differences between the mean and median and the lack of dispersion of these variables also indicate that they follow an almost normal distribution. It is important to note that when the observations are greater than 30, they have a normal distribution according to the central limit theorem (Green 2011). Since the total number of observations at the company level is 966, this is not violated and the variables follow a normal distribution.

Table 2: Descriptive statistics of the research variables at level of large companies

Type of variable	name of variable	observations	mean	median	deviation	maximum	minimum
	Quality of benefit	322	0/102	0/066	0/175	1/871	0/0001
	Company size-logarithm	322	15/694	15/284	1/272	19/106	13/879
	Financial leverage	322	0/623	0/639	0/207	1/333	0/096
Qualitative	B-Ind Change/83 B-Ind Change	322	0/931	0	0/291	1	0
	CEO change	322	0/319	0	0/467	1	0
	Audit change	322	0/027	0	0/165	1	0
	Owner change	322	0/403	0	0/491	1	0

The findings of Table 2, at the level of large companies in relation to the dependent variables, show that the average profit quality is 0.102. Regarding the independent variables of the research, the results of Table 2 show that the changes in board independence, change of CEO, change of auditor and changes in ownership at the level of large companies has an average of 0.090, 0.32, 0.03 and 0.40, respectively. Also, the average size of the company and financial leverage in these companies are 15.694 and 0.623, respectively.

Table 3: Descriptive statistics of the research variables at level of small companies

Type of variable	name of variable	observations	mean	median	deviation	maximum	minimum
	Quality of benefit	322	0/094	0/065	0/100	0/732	0/0011
	Company size-logarithm	322	12/635	12/811	0/711	13/747	10/031
	Financial leverage	322	0/612	0/593	0/240	1/565	0/0901
Qualitative	B-Ind Change/83 B-Ind Change	322	0/083	0	0/277	1	0
	CEO change	322	0/239	0	0/427	1	0
	Audit change	322	0/018	0	0/135	1	0
	Owner change	322	0/406	0	0/492	1	0

The results of Table 3, at the level of small companies and in relation to the dependent variables, indicate that the average profit quality is 0.094. In relation to the independent variables, the findings of Table 3 show that the changes in board independence, change of CEO, change of auditor and changes in ownership at the level of small companies have an average of 0.08, 0.24, 0.02 and 0.41, respectively. Also, the average size of the company and financial leverage in these companies are 12.635 and 0.612, respectively.

RELATIONSHIP BETWEEN CHANGES IN CORPORATE GOVERNANCE AND PROFIT QUALITY AT THE GENERAL LEVEL OF COMPANIES:

When the year and industry effects are controlled in the model, it is no longer possible to use pattern selection tests (F Limir and Hausmann and controlling the effects of companies) and attempts for any kind of estimation other than the OLS method (ordinary least squares) leads to software error due to misalignment or lack of basic conditions for the estimation of the model. Therefore, the model in question is estimated by controlling the effects of year and industry using the OLS method (Platoni 2016). Also, the line between the independent variables (variance inflation test) and serial autocorrelation (Woldridge test) between the model disruption lines will be examined and if there is any disruption, they will be fixed. Table 4 shows the results of fitting the model of the relationship between changes in corporate governance changes and profit quality at the general level of companies.

Table 4: The results of the final fit of the model of the relationship between changes in corporate governance and profit quality at the general level of companies

Variable	Coefficient	Standard deviation	Statistics t	Probability value t	Variance inflation factor
Fixed value	0/0519	0/0474	1/09	0/274	----
B-Ind Change	-0/0109	0/0153	-0/71	0/477	1/009
CEO change	0/0187	0/0097	1/93	0/054	1/017
Audit change	0/0592	0/0259	2/28	0/023	1/005
Owner change	0/0154	0/0088	1/74	0/082	1/005
Company size	0/0001	0/0030	0/01	0/995	1/007
Financial leverage	0/0260	0/0217	1/20	0/231	1/020
Year effects	Controlled				
Industry effects	Controlled				
Determination Coefficient	0.0451				
Adjusted determination coefficient	0.0260				
Statistics F(significance level)	2.35 (0.000)				
Weldridge statistic (significance level	0.070 (0.095)				
Observations					966

Table 4 shows the results of fitting the model of the relationship between changes in corporate governance and profit quality at the general level of companies. As shown in Table 4, the value of the adjusted determination coefficient indicates that the independent and control variables explain 3% of the dependent variable changes. Significance or meaningful of the statistic F (2.35) indicates the general significance of the fitted model at the general level of companies. Also, Woldridge statistic (0.095) shows that there is no serial autocorrelation between the disorder models. Then, according to the t-statistic at the significant level of coefficients and the sign of regression coefficients of each variable in the general level of companies, it can be concluded that the relationship between the variables of board independence and profit quality has a probability value (0.447).

Therefore, Hypothesis 1-1 of the research is not confirmed. The results of Table 4 indicate that the relationship between CEO change and earnings quality has a probability value (0.054) and a regression coefficient (0.0187). Therefore, it can be said that there is a negative and significant relationship between these two variables. As a result, Hypothesis 1-2 of the research is accepted. In the following, it is observed that there is a negative and significant relationship between auditor change with probability value (0.023) and regression coefficient (0.0592) and profit quality in the general level of companies. Therefore, Hypothesis 1-3 of the research is

also confirmed. Finally, the results of Table 4 show that the relationship between changes in ownership concentration and profit quality at the general level of companies has a probability value (0.082) and a regression coefficient (0.0154). Therefore, it can be said that there is a negative and significant relationship between these two variables. As a result, Hypothesis 1-4 of the research is also accepted. Regarding the control variables used in this study, it is observed that there is no significant relationship between company size and financial leverage with profit quality at the general level of companies. The results of variance inflation factor also show that there is no correlation between the independent variables of the study.

The relationship between changes in corporate governance and the quality of profits at the corporate level.

Table 5: the results of the final fit of the correlation model of changes in corporate governance and profit quality at the corporate level

Variable	Coefficient	Standard deviation	Statistics t	Probability value t	Variance inflation factor
Fixed value	-0/1604	0/1503	-1/07	0/287	---
B-Ind Change	0/0096	0/0334	0/29	0/774	1/015
CEO change	0/0434	0/0206	2/10	0/036	1/011
Audit change	0/1981	0/0585	3/39	0/001	1/010
Owner change	0/0113	0/0194	0/58	0/560	1/004
Company size	0/0113	0/0085	1/32	0/187	1/026
Financial leverage	0/1009	0/0507	1/99	0/048	1/023
Year effects	Controlled				
Industry effects	Controlled				
Determination Coefficient	0.116				
Adjusted determination coefficient	0/1156				
Statistics F(significance level)	0/0661				
Woldridge statistic (significance level	(0/002) 2/34				
Observations	(0/1553) 2/070				
	322				

Table 5 shows the results of the fitting of the correlation model of corporate governance changes and the benefit quality at the large companies. According to the results of Table 5, the value of the adjusted coefficient of determination indicates that the independent and control variables explain 6% of the changes in the dependent variable. Significance of f-statistic (2.34) indicates the significance of the fitted model at the level of large companies. Also, the significance level of Woldridge statistic (0.1553) shows that

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there is no serial autocorrelation between the disorder models. Furthermore, according to the t-statistic at the significant level of coefficients and the sign of regression coefficients of each variable at the corporate level, it can be concluded that the relationship between changes in board independence and profit quality at the corporate level, probability value is (0.774). Therefore, Hypothesis 2-1 of the research is not confirmed. The findings of Table 5 indicate that there is a significant negative relationship between the change of CEO with the probability value (0.036) and the change of auditor with the probability value (0.001) with the quality of profit at the level of large companies. As a result, Hypotheses 2-2 and 2-3 of the research are accepted. The results also show that the relationship between changes in ownership concentration and profit quality at the corporate level has a probability value (0.560). Therefore, Hypothesis 2-4 of the research is rejected. In relation to the control variables used in this study, it is observed that there is no significant relationship between firm size and profit quality and there is a positive and significant relationship between financial leverage and profit quality at the level of large companies. The results of variance inflation factor also indicate that there is no correlation between the independent variables of the study.

The relationship between changes in corporate governance and the quality of profits at the level of small companies

Table 6: the results of final fitting of the correlation model of corporate governance changes and the quality profits at the level of small companies.

Variable	Coefficient	Standard deviation	Statistic t	Probability value t	Variance inflation factor
Fixed value	0/3999	0/1148	3/48	0/001	----
B-Ind Change	-0/023	0/0203	-1/17	0/242	1/044
CEO change	-0/0067	0/0132	-0/51	0/610	1/044
Audit change	0/0055	0/0414	0/13	0/894	1/039
Owner change	0/0045	0/0111	0/41	0/684	1/010
Company size	-0/0268	0/0087	-3/07	0/002	1/038
Financial leverage	0/0068	0/0248	0/27	0/784	1/014
Year effects	Controlled				
Industry effects	Controlled				
Determination Coefficient	0/1607				
Adjusted determination coefficient	0/1079				
Statistics F(significance level)	(0/000) 3/04				
Woldridge statistic (significance level	(0/2077) 1/628				
Observations	322				

Table 6 shows the results of final fitting of the correlation model of corporate governance changes and the quality profits at the level of small companies. According to the results of Table 6, the value of the adjusted coefficient of determination shows that the independent and control variables explain 10% of the changes of the dependent variable. Meaningfulness of statistic f (3.04) indicates the significance of the fitted model at the level of small companies. Also, the significance level of Woldridge statistic (0.2077) indicates that there is no serial autocorrelation between the disruption sentences. Furthermore, according to the t-statistic at the significant level of coefficients and the sign of regression coefficients of each variable at the level of small companies, it can be concluded that the relationship between changes in corporate governance and profit quality at the level of small companies has the probability higher than 5%. Therefore, there is no significant relationship between changes in corporate governance and profit quality and hypothesis 1-3, 2-3, 3-3 and 3-4 of the research are not confirmed. In relation to the control variables used in this study, it is observed that there is a negative and significant relationship between firm size and profit quality and there is no significant relationship between financial leverage and profit quality at the

level of large companies. The results of variance inflation factor also show that there is no correlation between the independent variable of the study.

CONCLUSIONS AND SUGGESTIONS

The main subject of the present study is to investigate the relationship between changes in corporate governance and profit quality in companies listed on the Tehran Stock Exchange. Theoretically and empirically, there is a possibility of positive relationships between changes (improvement) of corporate governance with profit quality. Therefore, a question arises is whether changes in corporate governance affect the quality of profits in Iranian companies? Do these changes at different levels of company size affect profit quality? The answers to these questions reflect the main purpose of this research.

To test the hypotheses, the data of 161 companies were used listed on the stock exchange during the years 1389 to 1394.

Not much research has been performed on the specific subject of the research and the majority of researches have focused on corporate governance and less attention has been paid to changes in corporate governance. In this section, the results of the present study are compared with the

achievements of previous researches as much as possible. Findings showed that there is no significant relationship between changes in board independence and profit quality at different levels of firm size. This result is related to small firms similar to research (Christensen et al. 2015) and to large firms opposed to research (Christensen et al. 2015). Also, this result is contrary to research in the general level of companies (Mashayekh Bita and Mohammadabadi, 2011). They found that by increasing the presence of non-executive directors on the board, the quality (stability and predictability) of accounting profits has increased. Other results, similar to the research (Ebrahimi Kordler et al. 2010) showed a negative relationship between increasing ownership concentration and profit quality at the general level of companies. Also, a negative and significant relationship between CEO change and profit quality at the general level of companies is contrary to research (Choi et al. 2011). They found that profit management increases when the CEO is transferred.

According to the review of research literature, the investigation of information sources related to the subject, results and achievements of the present study, the following suggestions have been made to the authors of the regulations and the Tehran Stock Exchange Organization.

1. Due to the results obtained in this study relating to the negative impact of changes (improvement) of corporate governance on profit quality, it is suggested that companies strengthen corporate governance mechanisms. Also, due to the lack of influence of non-executive managers on the performance of the company, it is recommended that strategies and regulations be developed in such a way that non-executive managers have a more effective role in the company's strategy. Examining the results of ownership concentration, it was found that major shareholders play an important role in improving the quality of the company's profit . This can be due to the supervisory and professional role of this range of shareholders. While emphasizing the supervisory role of this range of shareholders, it is recommended that, in order to protect the rights of minority shareholders, laws and regulations should be regulated in such a way as to ensure the legal rights of this range of shareholders.

2. According to the results of this study and many similar studies that have been done in Iran, attention and application of international accounting and auditing standards can greatly improve the impact of

corporate governance variables on the studied variable.

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