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Examining the empirical relationship between ownership concentration and earnings management of listed companies in Tehran Stock Exchange – A Case Study in cement industry, automobiles and parts, and medical

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***Abstract*— One consequence of the development of the capital market is the separation of ownership from corporate executives. The separation of ownership from management arise agency problems. By relationship agency formation, conflicts of interest between managers and shareholders, and other stakeholders are developed and potentially there is a possibility that managers take action in their own interests and not necessarily in the interests of shareholders and other stakeholders.To reduce agency costs, corporate governance mechanisms (such as ownership concentration) in organizations are established.**

Earnings management occurs when managers use judgment in financial reporting and structuring of transactions to mislead some stakeholders about economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers in financial reporting.

In the present study, we have investigated the relationship between ownership concentration and earnings management. Based on the current literature, there are different competing hypotheses about the relationship between these two variables and there is need anymore. Active monitoring hypothesis states that the company's major shareholders of their voting power manage the Company's operations and decision making. In contrast, the hypothesis implies that the self-interests of the owners of the company administer its authority to favorite route. To investigate this relationship, a regression model is used. Our financial information on listed companies in Tehran Stock Exchange for the cement industry, automotive parts and pharmaceuticals for the period 1391-1385 (546 years - the company) reached the conclusion that according to the concentration of ownership and management interest in medicine and car parts, there is a significant negative correlation existing in the cement industry.

***Index Terms*— concentration of ownership, earnings management, corporate governance.**

I. INTRODUCTION

Specification of major enterprises is large and broad ownership structure and the separation of ownership from management.This means that shareholders do not control over the effectiveness of the management and thus the probability that managers achieve their own interests in a way they behave opportunistically, increases(Osma and Gill-de-Albornoz, 2007).

Based on the theory ofJensen and Meckling (1976), the foundation of corporate governance, agency theory and the representation issues of ownership decouple control. The companies going public, stakeholders (employers) authority decision-making to managers (agents) are assigned namely. Albeit to varying degrees of control is separated from ownership. (Mazloomi, 2003)

The purpose of financial reporting is to provide information about the financial effects of transactions, operations and financial events affecting the financial condition and results of operations expressed as a unit and the profit through investment and fiscal incentives and other external users in judgment and decision work towards making a profit of help. One of the accounting items in the financial report is a benchmark to evaluate the performance and capabilities of the unit profit and net profit.

Calculating the net profit affected unit that enables the manipulation of profit accounting methods and this is estimates by management. (Jabbarzadeh, et al, 2010)

According to agency theory, managers, shareholders and agents should act in their own interest. But sometimes managers are placed in situations where their decisions in favor of the shareholders are not the cause distortion of the financial report. The issue relations are known as a representative. (Bolkuyi2002). The companies going public and stakeholders (employers) having decision-making authority to managers (agents) are assigned namely. Albeit to varying degrees of control is separated from ownership.(Mazloomi, 2003). This distinction has led to debate about the relationship between owners and managers. A leader extent their efforts as financial theory that proposes the interests of brand owners to work. Companies going public in a dispersed ownership structure (there are a large number of small shareholders) or focused cases (there are a few major shareholders) is considered. When ownership is in the hands of major shareholders, the ownership is concentrated and distributed control system, thus the control system will be decentralized. (Gursoy et al, 2003) Since ownership concentration is an important determinant of corporate governance mechanisms, the identity of the owners seems to be a controlling role in relation to earnings management.

Due to the separation of ownership from management, ownership structure is as stimulus measures to reduce costs and increase company value and performance. Meanwhile, the concentrated ownership structure or in other words is

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ownership concentration in the hands of one or more major shareholder that is regarded as a mechanism for corporate control and firm performance. (Ahmadvand, 2006)

According to Gillan and Starks (2003), the role of institutional investors in shaping corporate governance systems are in many variations. This remarkable group of shareholders with respect to the ownership of the stock of the company has significant influence procedures (including accounting procedures and financial reporting (Gillan and Starks, 2003).

Since the majority owner or an alliance with the supervision management can focus on the profit reported by management or profit management reporting manipulation,therefore, in this study the relationship between ownership concentration and earnings management via abnormal accruals are investigated.

In this regard, the following questions are discussed:

1. Is there any correlation between ownership concentration and earnings management in the cement industry?
2. Is there any correlation between ownership concentration and earnings management in the automotive industry and parts?
3. Is there any correlation between ownership concentration and earnings management the drug industry?

The theoretical literature:

Several different theoretical frameworks for describing and analyzing corporate governance and earnings management have been proposed and each of them using different words and different topics are discussed.

Representation theory:

Agency theory is a PAT. This theory tries to explain the accounting standards and systems. The efficient market hypothesis is based on the calculation of the angle at which it can provide information to the capital market. It raised the question of agency theory with respect to a certain action. What are the expected benefits? It should also be noted that we often have conflicting interests for managers and shareholders. (Hasas yeganeh, 2005).

Theory of information asymmetry:

Financial reports are the main sources of information for economic decisions which are considered. Since the data providers and users are not the same, it is caused by information asymmetry between managers and investors. Information asymmetry is a situation that managers and investors had not disclosed information about the company's operations and other features. This is because managers have incentives and opportunities for earnings management. (Rahmani and Bashiri Manesh, 2011).

Transaction cost theory:

This theory was first proposed by Cyert & Mach's behavioral theory. This theory is not only as an economic unit and public company, but is an organization comprised of individuals with different perspectives and goals. Transaction cost theory is based on the fact that companies are so large and complex due to market price fluctuations. Fluctuations in market prices, production coordination and balance to market, traditional economic theory and all rational economic agents and increasing the profits of the business as the primary goal are considered here. While the transaction cost economic theory argues that managers and other economic agents has the limited use logically. Simon conduct that defining the logic is sound, but the administrators are doing to limit this behavior. (Hasas yeganeh, 2004).

In situations that shareholders have the Lower interest in firm, no incentive have not for the monitor managers or have a little incentives,because Increases costs of monitoring Interests managers monitor managers.The framework was developed based on the representation by Jensen and meckling, expected there are major shareholdersmakes less than opportunistic earnings management. Bendeson & Wolfenzon arguesmall shareholders,better knownlarge shareholders as an indication of the regulatory environment. Their reasoning is consistent with the view that ownership concentration is a featureof corporate governance regulation.

In other words, we can saythere are negative correlation between ownership concentration and earnings management (Chalaki and Aghayi, 2009).

Biabani and Razi (2013) in their study assessed and compared the dividend policy on shareholders regarding ownership structure and ownership concentration of listed companies in Tehran Stock Exchange. In the study,82 participants have been analyzed during the period 2004-2010.

The results indicate that companies generally do not follow a particular dividend policy of a particular process and is more based on the random walk model act.

However, evidence suggests that companies that are compared with institutional ownership of corporate ownership, management and individual shareholders with greater profits are divided among its shareholders. Also we should be concentrated or dispersed ownership which is no difference in the proportion of dividend.

Hasas yeganeh and Shahriary (2010) discussed the relationship between ownership concentration and studied conservatism. Active monitoring hypothesis states that the company's major shareholders used their voting power to manage the Company's operations and decision making.In contrast, the hypothesis implies that the self-interests of the owners of the company refers its strength on their preferred route of administration. To investigate this relationship, a regression model is used. Based on the financial information of listed companies in Tehran Stock Exchange for the period 2002-2006 (285 years - the company), we concluded that with regard to the control variables, such as size, growth, there is negative correlation between concentrated ownership and conservatism. This conclusion is consistent with the assumptions of self-interest and strategic alliance and coordination with active monitoring hypothesis.

Usman Shehu Hassan and Jibril (2012), in their study, referred the relationship between ownership concentration and earnings management in companies. Nigeria was investigated for assessing earnings in Jones management model (Dichow et al, 1995). In this study, the control variables include firm size, leverage and return on assets and return on assets meaningfully. Results showed a significant negative relationship between ownership concentration and ownership concentration and earnings management regarding earnings management limits.

Joseph Ason and Wee Ching Pok (2010), in their study, showed the relationship between efficient and inefficient internal corporate governance looked at the level of discretionary accruals. This study is based on a sample of 961 observations and was conducted during the years 2002 to 2005. In this study, the model of Jones (Dichow et al, 1995) was used to obtain discretionary accruals. The results show that firms with effective governance mechanisms (effective) have no significant relationship between ownership concentration and earnings management and board structures are significantly related to earnings management. The results show that earnings management in firms with ineffective internal governance mechanisms is more important. Furthermore, the results prove that major shareholders are encouraged managers to manage earnings opportunistically.

II. Research hypotheses:

The main hypothesis: There is significant relationship between ownership concentration and earnings management.
Hypothesis 1 - There is significant relationship between ownership concentration and earnings management of listed companies in Tehran Stock Exchange for the cement industry.
Hypothesis 2 - There is significant relationship between ownership concentration and earnings management of listed companies in Tehran Stock Exchange for the automotive and parts.
Hypothesis 3 - There is significant relationship between ownership concentration and earnings management of listed companies in Tehran Stock Exchange for the pharmaceutical industry.

III. Materials and Methods:

These quasi-experimental studies and comparative studies are inductive.In this study, the comparison of the theoretical framework and research background (library and Internet research) is outlined. Then, the way for inductive necessary information is collected to accept or reject the hypothesis.Also in this study, the aim of applied research and research to gather information and investigate the events are correlated. Correlation and regression analysis of the data is used by combining data Eviews and Stata and Excel software.

The population and sample society:
The research population includes the listed companies in Tehran Stock Exchange for the cement industry, automobiles and parts, medicines, over the years 2006 to 2012 (7 years old).

Sampling:
This study investigated the hypothesis testing in a particular industry due to the low number of companies. The conducted companies which are chosen should have the following characteristics:

- Before 1385, the Tehran Stock Exchange is accepted.
- Fiscal year end March are all for corporate. Since the beginning of the year, costs are increased with increasing the general level of prices.
- During the study interval, the companies have not changed their financial year.
- Information required to complete the investigation period is provided.
- be audited and non-consolidated.

IV. Results:

Descriptive Statistics:
In this regard, the core measure indicators such as mean, median and standard deviation, minimum and maximum variables ultimately are used. In inferential statistics, regression analysis and statistics of F and T are used. Multivariate regressions to analyze the relationship between ownership concentration on earnings management companies in the cement industry, vehicles and parts, medication are used.
Summary characteristics of the variables used in this study in the form of descriptive statistics are in Table1 and the research data for 546 years the company has provided. The reported statistics include the mean, median, maximum, minimum and standard deviation of each of the variables used in the study.
1 Audited financial statements have greater reliability.
2 due to the matched samples

Table 1: Descriptive statistics of research variables for sample enterprises

Independent variables		Number of observations	Minimum	Maximum	Median	Average	Standard deviation
Earnings Management	EMGT[1]	546	- 8.055519	21.83654	- 0.001048	0.001933	1.442721
Ownership concentration	OWNCON[2]	546	0.000000	0.966000	0.7855	0.626931	0.327685
Financial Leverage	LEV[3]	546	0.103737	2.200286	0.641672	0.624312	0.182106
Return on assets	ROA[4]	546	- 0.197653	4.424301	0.147362	0.177966	0.227634
Logarithm of assets	Log TA[5]	546	10.56545	18.19499	13.17888	13.39677	1.352825

1 - The regression residuals in model (2) are obtained.
2 - The total percentage of shareholders owning at least 5 percent of the company is obtained.
3 - The debt divided by the sum of debt and equity participation is achieved.
4 –It is obtained by dividing the net profit of the company's assets.
5 - The natural logarithm of total assets is obtained.

According to Table 1, toxicity can be expressed by the variables used in this study. Financial leverage (LEV) is the lowest standard deviation and indicates that the data are close together and the distribution of this variable is small. Earnings management has also the highest standard deviation and indicates that these variables are more scattered than other variables. The comparison between the mean and median of the data can be said earnings management variables, efficiency on assets and the logarithm of the assets of asset is Skewness to right and Ownership concentration and financial leverage to the left.

The first hypothesis tests and results:
In this paper, earnings management and ownership concentration as the dependent variable is considered as the independent variable and firm size, leverage, and return on assets will be considered as a control variables. To test the hypothesis (1) regression method based on combined data will be used.
To test the hypothesis (1), the relationship between ownership concentration and earnings management in the cement industry, the remainder of the model (2) as a measure of earnings management in model (3) is considered:

Model (3):

$$EMGT_{it} = \alpha_{0it} + \beta_1 OWNCON_{it} + \beta_2 LEV_{it} + \beta_3 ROA_{it} + \beta_4 LogTA_{it} + \mu_{it}$$

The first hypothesis tested in this study has the 27 participants, typically over the years 2006 to 2012. In total, 189 samples a year – was observed.
The first hypothesis was defined as follows:
H_0 = There is no significant relationship between ownership concentration and earnings management in the cement industry.
H_1 = There is a significant relationship between ownership concentration and earnings management in the cement industry.

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

Table (2):

Dependent variable: Earnings Management				
Prob	T-statistics	Standard error	Coefficient	variable
0.2385	1.183241	0.586031	0.693416	OWNCON
0.0000	5.796392	0.127053	0.736451	LEV
0.9232	-0.096595	0.160346	-0.015489	ROA
0.3914	0.859404	0.028443	0.024444	LogTA
1.958767	Durbin–Watson statistic	2.874628		F-statistics
0.230262	Adjusted R2	0.000011		Prob(F-statistic)

Accordance with Table 2, the significance of the regression at 99% confidence level is confirmed (Prob (F-statistic) = 0.000011). 0.693416 coefficientsindicate a positive relationship between ownership concentration and earnings management. P-value equal to 0.2385, whereas for the coefficient of the independent variable t, there is no significant relationship between the independent variable of interest and the concentration of ownership and management. Therefore, for the concentration of ownership and earnings management companies in the cement industry, there is no significant relationship. The present study was thus inconsistent with the theory of active surveillance, personal interests and strategic alliances.

The second hypothesis tests and results:

In this case, too, in this paper, earnings management and ownership concentration as the dependent variable is considered as the independent variable and firm size, leverage, and return on assets will be considered as a control variables. To test the hypothesis (2) regression method based on combined data will be used. To test the hypothesis (2), the relationship between ownership concentration and earnings management in the drug industry, the remainder of the model (2) as a measure of earnings management in model (3) is considered:

Model (3):

$$EMGT_{it} = \alpha_{0it} + \beta_1 OWNCON_{it} + \beta_2 LEV_{it} + \beta_3 ROA_{it} + \beta_4 LogTA_{it} + \mu_{it}$$

The first hypothesis tested in this study has the 24 participants, typically over the years 2006 to 2012. In total, 168 samples a year – was observed.
The second hypothesis was defined as follows:
H_0 = There is no significant relationship between ownership concentration and earnings management in the cement industry.
H_1 = There is a significant relationship between ownership concentration and earnings management in the cement industry.

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

Table (3):

Dependent variable: Earnings Management				
variable	Variable	Variable	variable	Variable
0.0687	-0.294661	0.118422	-0.034894	OWNCON
0.0000	4.967658	0.295075	1.465829	LEV
0.8579	0.179396	1.020116	0.183005	ROA
0.0000	4.520620	0.115335	0.521387	LogTA
1.976170	Durbin–Watson statistic	1.418350		F-statistics
0.163352	Adjusted R2	0.009527		Prob(F-statistic)

Accordance with Table 3, the significance of the regression at 99% confidence level is confirmed (Prob (F-statistic) = 0.009527). The coefficient represents the-0.034894negative relationship between ownership concentration and earnings management in the drug industry. Therefore, for the concentration of ownership and earnings management companies in the drug industry, there is a significant negative relationship. On the other hand, the adjusted coefficient of determination equal to 0.163352 and stated that more than 16% dependent variable is explained by the independent variables. Durbin–Watson statistic in this model is 1.976170, which indicates that there is no problem of autocorrelation between variables. According to the Durbin–Watson statistic test values between 1.5 to 2.5, acceptable values for admitting lack of correlation can be modeled. The results of the study are inconsistent with Chalaki and Aghayi studies (2009) and consistent with the results ofUsman Shehu Hassan and Jibril studies (2012).

The third hypothesis tests and results:

In this case, benefit management companies in the automotive and components are considered as the dependent variable and the concentration of ownership as independent variable, as well as firm size, leverage, and return on assets will be considered as a control variable.

To test the hypothesis (3), regression method based on combined data will be used.

To test the third hypothesis, the relationship between ownership concentration and earnings management in the automotive and parts, the rest of the model (2) as a measure of earnings management in model (3) is considered:

Model (3):

$$EMGT_{it} = \alpha_{0it} + \beta_1 OWNCON_{it} + \beta_2 LEV_{it} + \beta_3 ROA_{it} + \beta_4 LogTA_{it} + \mu_{it}$$

In this study, to test the third hypothesis, the 27-company samples were usedduring years 2006 to 2012. In total, 189 samples in a year - was observed.

The third hypothesis was defined as follows:

H_0 = There is no significant relationship between ownership concentration and earnings management in the cement industry.

H_1 = There is a significant relationship between ownership concentration and earnings management in the cement industry.

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

Table (4):

Dependent variable: Earnings Management				
Variable	Variable	Variable	Variable	Variable
0.0004	-3.619404	8.748731	-31.66519	OWNCON
0.0252	2.260578	0.379671	0.858277	LEV
0.0028	3.038680	0.579361	1.760493	ROA
0.0000	5.442256	0.136625	0.743546	LogTA
1.997263	Durbin–Watson statistic	1.234045		F-statistics
0.236003	Adjusted R2	0.004467		Prob(F-statistic)

Accordance with Table 4, the significance of the regression at 95% confidence level is confirmed (0.004467 = Prob (F-statistic)). -31.66519coefficient indicates a negative relationship between ownership concentration and earnings management in the automotive and components. P-value equal to 0.0004 t-statistic and is associated with the coefficient of the independent variable on the dependent variable for the existence of a significant relationship between ownership concentration and earnings management of 99% implies a confidence level. Therefore, for the concentration of ownership and earnings management in companies and auto parts industries, there is a significant negative relationship. On the other hand, the adjusted coefficient of determination equals to 0.236003 and stated that more than 23% of the dependent variable is explained by the independent variables. The Durbin–Watson statistic in this model is 1.997263, which indicates that there is no problem of autocorrelation between variables.

According to the Durbin–Watson statistic test values between 1.5 to 2.5, acceptable values for admitting lack of correlation can be modeled.This result is consistent with the theory of active monitoring and is inconsistent with the theory of self-interest and strategic alliances. The results of the study are inconsistent with Chalaki and an Aghayi studies (1388) and consistent with the results of Hassan Sho Osman and Jibril studies (2012).

V. Conclusions and Recommendations:

The results show a significant relationship between ownership concentration and earnings management in the cement industry.

We examined the relationship between ownership concentration and earnings management in the drug industry. Hypothesis implies that there is a significant negative relationship between these two variables.

Also, there is a significant negative relationship between ownership concentration and earnings management in the automotive and parts.

VI. Suggestions:

1. According to the result of the first hypothesis, for the cement industry, it is recommended that investors and users of financial statements consider the ownership concentration as a factor affecting earnings management. They do not pay attention to other factors of corporate governance (such as the influence of CEO, duality task manager, board size, board independence) . The concentration of ownership in the cement industry in opportunistic behavior of managers to effectively monitor does not work anymore.
2. According to the results of the second and third hypotheses in medicine and car parts, it is recommended a platform in order to activate major investors in capital markets (such as providing timely and reliable financial statements due to financial and non-financial information). This will be provided to the industry in this way (high ownership concentration) and could reduce management earnings. The decrease in earnings management, earnings quality increases, investors can more confidently rely on financial statement.
3. It is recommended that users of financial statements in the financial statements of the Company and the shareholders consider the amount of shares each of them. It is suggest that their economic decisions and assessing the financial health of the companies are paying attention to this issue. The results of the present study are affectiveon the concentration of ownership and earnings management and manipulation.
4. Due to the profit figures, the most important influence on the decisions of users in financial statements, users of financial statements in medicine and automobile parts should be noted that the profits of such companies with higher ownership concentration are more reliable than firms with dispersed ownership structure.
5. Due to the major shareholders of the Company and the drug industry, vehicles and parts, which help to reduce earnings management, it is recommended that the major investors in the establishment of these companies should be stressed on the presence of such shareholders in the shareholders of these companies.

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