Study of Relationship between Earnings Management and Earnings Quality of Companies Listed on the Tehran Stock Exchange

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ABSTRACT

The aim of the study is examining the relationship between earnings management and earnings quality of companies listed on the Tehran Stock Exchange. Accruals on the one hand allow managers to determine the profit so that can reflect the firm's true value and on the other hand, these items give authority to managers so that they are able to abuse the flexibility of accepted accounting methods and principles and distorted the information content of earnings. Results is based on a survey of 40 companies in the period 1389 to 1393 shows that there is a significant relationship between earnings management and earnings quality of companies listed on Tehran Stock Exchange. Therefore, the results indicate that increasing in the discretionary accruals is reduced from the amount of desirable characteristics of benefit. In the meantime, accruals quality will be affected by earnings management more than other properties. Moreover, an increase in the amount of discretionary accruals is associated with a reduction of quality scores of corporate profits.

KEYWORDS
earnings management, earnings quality, Tehran Stock Exchange, discretionary accruals earnings

INTRODUCTION

The main objective of financial reporting is to provide information appropriate to decision making by users of financial information. Financial reporting may be conducted in the form of financial statements or other tools of information transfer. Accounting income and its components are including the information that will be considered during the decision-making by individuals. Given that the profit calculation of business units has been affected by methods of accounting estimate and preparing financial statements is a responsibility of business unit management, it is possible for various reasons management attempted to make a profit management. Based on agency theory management’s incentives to manipulate earnings accomplish in order to achieve its goals, which is not only does not align with the goals of equity, but in the majority of cases it is contradictory with their goals (Tian, 2007).

Undoubtedly, in the years that the company's financial situation were poor and signs of moving toward financial crisis appears to manager, the motivation of manage earnings increases in order to hide poor performance of the enterprise. For this reason, the value of profits is as one of the most important reporting purposes is under doubt and undermines its credibility (Zengin and Ozkan, 2010).

Earnings management is one of important aspect of financial reporting and the main issue among all stakeholders of the business, since the amount of profit is an important criteria for performance evaluation, so any interference that might distorted the accuracy of reports could be affect on decisions of the users of financial statements. So we can say the qualitative and quantitative aspects of profits have a great importance to the investors, the quantitative element of profit can be considered as discretionary accruals, in this way whatever discretionary accruals in profit are high it indicates more possibility of profit management. But the considerable point is that the annually use of discretionary accruals (a measure of earnings management) for detecting earnings management would be lead to not detecting earnings management.

Due to the impact of high and low earnings management (earnings management orientation) in mid-time periods are adjusted at the end of the period which decreased average of accruals at the end of the year (Beyer et al., 2014). So the management in mid-time periods have more incentive for earning management in addition to these discretionary...
accruals during the different mid-time periods because management in mid-time periods have more positive perception and delay the bad news until the end of the period that can make a profit management. Moreover, accounting standards required that some income and costs (e.g., income tax) have an annual nature initially estimated for whole year so based on can properly identify its mid-time period share; therefore, the administrator can use of these estimates with opportunism and with applying the tool called the Performance Management they can incorrectly reflect the performance of mid-time periods (Damodaran, 2002).

One of the primary objectives of financial reporting is to provide information on the firm's performance which is obtained through measuring income and its components. The particular interests of stakeholders pure measure of financial statements entity's future cash flows is in order to estimate their expected return (Francis et al., 2008). In order to increase the predictability of future cash flows disclosed earnings should be with quality. Public dissemination of information with high quality by management will reduces the information asymmetry between management and other users. According to studies, reduction of information asymmetry in turn leads to a reduction in capital costs, information risk, and increase in ability of forecasting cash flow, improving evaluation of company and also increases the liquidity of shares (Benesh and Vargus, 2002).

This study examined a sample of earnings management of listed companies in Tehran Stock Exchange, within a period of five years. In addition, this paper investigated the relationship between earnings management on earnings quality of listed companies in Tehran Stock Exchange. If the companies manage their earnings, information content of profits will be decline and it will be compromised the optimal use of this element in the decision-making patterns. So, since knowledge is a necessity of decision making, benefit analysis will have special importance. Therefore, the necessity of this research is raise awareness of investors in this field.

**THEORETICAL FOUNDATIONS**

This study is based on the assumption that the quality of accounting information, on the one hand it is based on the decision of management reporting and on the other hand it is determined based on operational and commercial environmental characteristics of firms. Although operational characteristics and the business environment are affected by administrative decisions of firms, however, managers in the short term have no ability to fundamental changes in this specification; as a result operational characteristics and the business environment of the company in large extent are formed independent from management decisions.

In financial literature, this is assumed that there is a relationship between the company's management reporting decisions and specification of information and assumes that profit is the primary source of firm-specific information. For example, previous research has shown that, investors rely on to profit, more than any other criteria as a measure of performance. In addition, managers also consider profits as a key criterion, as investors and analysts used this in their assessment.

Previous studies have shown that in terms of investment, four representatives of earnings quality are important and with how more desirable they become, information risk decreased, and in capital market it provides certain advantages for the company. These benefits are measured using the criteria of cost of equity. By considering earnings as the main source of firm-specific information and according to the management reporting decision, it affected the main source of company-specific information, it is expected that the earnings management affected to amount of desirable quality characteristics that earnings.

**Earnings management**

Earnings management literature has no accepted definition of earnings management. Arthur Levitt, former chairman of the US Securities and Exchange Commission, is defined earnings management as: earnings management is acts that leads to reported earnings reflect management's demands to stem financial performance of firm.

Earnings Management defines as targeted intervention in the financial reporting process with the intention of obtaining some private interests. This two definitions focus on the opportunistic management aspects; i.e., management by profit motivations attempt to earnings management and implicitly state that earnings management will reduce the information content of accounting numbers. On the other hand, some researchers have awareness looking at earnings management and they defined it as manipulate earnings numbers by managers by which management's private and confidential information about the future performance of the company are transferred to the investors. By accepting this definition, have been expected that earnings management not only will not reduces the information content of profit, but this practice, helps investors to better interpret the reported figures. However, opportunistic of earnings management is more acceptable in literature.

Much research has been accounting. In this regard, in the 1970s and 1980s, researchers were focused on the determinants of accounting choices. Evidence are consist with this assumption that managers due to economic incentives deliberately chose accounting rules in order to change benefit. However, because of the principle of consistency and pressure from the auditors for compliance with this principle, companies cannot continuously change the accounting rules, because this principle results to choice of accounting policy become an expensive approach to manipulate earnings.

Thus, since the mid-1980s, studies of earnings management focused on the manager's use from accruals to impact on reported earnings. Accrual accounting basis in compared to a cash basis provides a higher flexibility to managers for change the accounting numbers. The use of accruals have been easier as compared to the accounting procedures for earnings management, it also makes it more difficult to detect earnings management.

**Earnings Quality**
Four dimensions of earnings quality are features of profits which are used in evaluating the appropriateness of accounting procedures. Four features of interest include: the quality of accruals, earnings persistence, earnings predictability of profits and smoothness. In measuring these properties, cash and profits are considered as a reference structure and, consequently, only measured by using accounting information. Each of these characteristics are expressed the different dimensions of quality of accounting information.

1. Accruals Quality:

In recent years, accrual accounting has been introduced as one of the most important measures of earnings quality. Many of the methods to assess earnings quality are focus on whether that better desirable benefit those are closer to cash. Whatever time interval between revenue recognition and receive cash be more profit will have lower quality.

2. Predictability:

This feature is defined as profit ability to self predict. Predictability is one of the elements of relevance and, therefore, from the perspective of standard makers it is a desirable feature. Also, the feature was important from the perspective of analysts, it is essential part of valuation. This dimension of profit quality focuses on the properties of profit’s time series and states that earnings of next year based on changes in earning of this year are predictable.

3. Stability:

This feature indicates stability and sustainability of earnings. From the perspective of investors, durable and stable earnings are desirable due to the continuity. Regardless of the rate and direction of change of profits, stability indicates that changes in current period earnings how extend are stable in the profit time series. Profit figures with high stability from the perspective of investors are considered as durable earnings, to the extent that such profits are used as the basis for applying a shortcut method for valuing assets (such as price to earnings ratio).

4. Smoothness:

This feature means a lack of temporary fluctuations in profits, so that smoothly earnings have a closer relationship with real cash flows. Therefore, in measuring the Smoothness cash is used as a reference structure. This type of smoothness earnings, are different from that profit which are smooth by accounting procedures used by management selection. Usually, investors are demanding profits with minimal fluctuations. So they use the size of fluctuations in the company's earnings directly as a measure of risk.

LITERATURE REVIEW

Benesh and Vargus (2002) studied the effect of earnings management on earnings sustainability. The researchers found that the commitments of earnings when earnings management increase (decrease) and managers attempting to sell (buy) stock, earnings have less (more) stability. Also, pricing of commitment amounts would be incorrect. This incorrect pricing can be attributed to management's profit rose.

Francis et al. (2004), in a study have been investigated the relationship between the seven characteristics of earnings includes: Accruals Quality, stability, predictability, smoothness, relevance, timeliness and conservativeness with cost of equity. Based on the results, except for predictability and conservatism, among other features of earnings and costs of equity there are been a significant inverse relationship. It means that whatever this properties are desirable, the cost of equity decreases and vice versa. Among all the characteristics of earnings, Accruals Quality has a greater impact on the cost of equity. This result confirms the usefulness of qualitative characteristics of accounting information.

Tian (2007), examined the effect of earnings management on relevance of earnings in valuation of companies, because the profit of one of the most important inputs in the valuation of the companies in accounting modules. Ability of earnings in reflects the current and future performance of corporate, is a key factor in determining the intrinsic value of company. The results showed that earnings management have a detrimental impact on usefulness of profit in valuation of the company, because it is reduces the information content of earnings.

Chang and Shiva (2010) investigated the effect of earnings management on earnings forecast feature. The researchers state that in general earnings management reduced the predictive power of profits. However, when measured in different deciles of earnings management, predictability is measured, the results shows that in the deciles with the highest level of earnings management, not only the predictability of profit will not decrease, but the team's findings may be indicative of the behavior of earnings management's awareness. Finally, the researchers suggest that their results strongly do not support opportunistic earnings management.

Beyer et al., (2014), examined the relationship between earnings management and earnings quality. In this study the sample companies, including companies in the New York those are examined four-year period. The results indicate that manipulation of accruals measured by using the discretionary accruals pattern and manipulation of real activity measured by an unusual pattern of cash flows and then impact of earnings management made on earnings quality was evaluated by the criteria for conditional conservatism. The results of hypothesis testing showed that despite exerting more earnings management in firms with financial crisis, measured earnings quality is lower.

DEFINITION OF STUDY VARIABLES

1. Independent Variables:

Earnings Management: In the present study, the independent variable is earnings management. For its calculation we used the discretionary accruals that extracted from the modified Jones model (1991), (Dechow and Dichev, 2002).

The reason for using modified Jones model is that Niko Maram et al., (1388) have shown that the next editions of...
the Jones models have acceptable power for detecting earnings management (Niko Maram et al., 1388).

Earnings Management Model(1)

\[ \frac{\Delta \text{T Ait}}{\text{Ait-1}} = \alpha_1 \left( \frac{1}{\text{Ait-1}} \right) + \alpha_2 (\Delta \text{REV-\Delta REC}) + \alpha_3 \left( \frac{\text{PPEit}}{\text{Ait-1}} \right) + \varepsilon \text{it} \]

In equation (1) \( \text{T Ait} \) : Total accruals of company i in the year t which obtained from result of net profit before extraordinary items minus operating cash

Ait-1: Total assets of the company i in the year t-1

\( \Delta \text{REC} \): Change in the receivables accounting company i between year t-1 and t

\( \Delta \text{REV} \): Change in the revenue of company i between year t-1 and t

\( \text{PPEit} \): amount of property, plant and equipment (gross) company i in the year t

In the this model, first \( \alpha_1, \alpha_2, \alpha_3 \) the estimated parameters specific to the company through the least square estimation method has been estimated between 1386 to 1390 and then has been tested for the period of investigation (1387- 90). In this earnings management index model (discretionary accruals) is the error term (\( \varepsilon \)), if the index is negative, indicating that the manager uses of a minimising of earning or big van and if the index is positive it indicates that the manager uses the maximization of Earnings (Kothari et al., 2005).

It is noteworthy that in this study, whatever level of (size) the absolute value of discretionary accruals is high shows that the ability to Earnings management rises by managers (Bolue, and Taleby, 1389).

2. Dependent Variable:

Earning Quality: In this research earnings quality is considered as independent variables for both companies with high earnings quality and companies with low earnings quality. A survey conducted by (Ben H. Bao, 2004) with the title of smoothing income, earning quality and firm valuation which used three indicators to determine the companies with high-quality earnings those are as follow:

1. Earnings cash content (ratio of operating cash flow per share to earnings per share) should be higher than the average of the total sample.
2. Cash flow per share from operating activities must be positive.
3. Earnings per share should be positive. (Earnings per share before extraordinary items must be positive).

If a company has the three aforementioned characteristics, which is a company that its earnings are qualitative and if the company did not have one of the above three conditions, its revenues have a poor quality.

3. Control Variables:

Control variables were included in the hypotheses testing model which is due to importance of its impact on performance criteria. The control variables which are mostly used in the strategy literature as affecting variables on performance of the company's includes:

- Financial leverage variable: Is obtained through total liabilities to asset.
- Enterprises size variable: the natural logarithm of sales is as a measure of company size.

RESEARCH METHODOLOGY

This study, in terms of purpose is developmental and research method is descriptive and co-relational study based on regression analysis which we try extrapolate it to society with the collecting quantitative data obtained from sample.

POPULATION OF STUDY

Study is a quasi-experimental Research and ex-post type and it’s done using data from the past. The research period for this study is 5 years (89 to 1393) and according to the following criteria 80 companies formed the study population:

1. Required financial information in order to extract the required data should be available.
2. Up to the end of fiscal year of 1389 it should be listed in the Tehran Stock Exchange.
3. It should not be among banks and financial institutions (investment companies, financial intermediaries, holding and leasing companies); because of financial disclosures and corporate governance structures of them are different.
4. It should not be unprofitable company.

HYPOTHESES

Research hypotheses according to theatrical perspective and previous research has been designed and developed as follows:

H1: Earnings management reduces earnings quality of companies listed on Tehran Stock Exchange.

H2: Earnings management decreases discretionary accruals earnings of listed companies in the Tehran Stock Exchange.

TESTING RESEARCH HYPOTHESES

In this section we examine the hypotheses using Eviews software.

To analyze the data and research estimated models, ordinary least squares regression model of combined data have been used in the combined effects, fixed effects or random methods. To determine appropriate estimation method several tests should be done. The most commonly used tests are: the Chow test for choose fixed effects model or panel data and Housman test to select one of the fixed effects model or random effects.

Estimated model of this study are as follows:

\[
\text{EQ } t,i = \beta_0 + \beta_1 \text{EM}t,i + \beta_2 \text{Size}t,i + \beta_3 \text{Leverage } t
\]

In order to review and preliminary analysis of data, descriptive statistics of study’s variables were calculated and provided in Table (1):
According to the results in the Table 3 at error level of 5 percent of all variables are valid.
The research hypothesis is as follows:

**INFERENTIAL TEST**

**First hypothesis:** earnings management reduces earnings quality companies listed on Tehran Stock Exchange.
H0: Earnings management does not reduce earnings quality companies listed on Tehran Stock Exchange.
H1: Earnings management reduces earnings quality companies listed on Tehran Stock Exchange.

**The reliability of variables:**
The parameters of the variables of each model over time should be in a fixed time series regression model, which used unit root test to determine the static (reliability) variables. In this study we used the modified Dickey-Fuller and Phillips-Perron tests to assess the reliability of the variables. The results of the consolidated unit root tests are provided in the table (3).

**The second hypothesis:** the quality of earnings management decreases discretionary accruals Earnings of listed companies in Tehran Stock Exchange.
H0: quality of earnings management will not decrease discretionary accruals firms listed in Tehran Stock Exchange.

H1: quality of earnings management decreases discretionary accruals Earnings of listed companies in Tehran Stock Exchange.

Tab. 5. Estimation pattern of research hypothesis

<table>
<thead>
<tr>
<th>White Heteroskedasticity Test:</th>
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</thead>
<tbody>
<tr>
<td><strong>F-statistic</strong></td>
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<tr>
<td><strong>Obs*R-squared</strong></td>
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<tr>
<td><strong>Test Equation:</strong></td>
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<tr>
<td><strong>Dependent Variable:</strong></td>
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<tr>
<td><strong>Method:</strong></td>
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<tr>
<td><strong>Date:</strong></td>
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<tr>
<td><strong>Sample:</strong></td>
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<tr>
<td><strong>R-squared</strong></td>
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<tr>
<td><strong>Adjusted R-squared</strong></td>
</tr>
<tr>
<td><strong>S.E. of regression</strong></td>
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<tr>
<td><strong>Sum squared resid</strong></td>
</tr>
<tr>
<td><strong>Log likelihood</strong></td>
</tr>
<tr>
<td><strong>Durbin-Watson stat</strong></td>
</tr>
</tbody>
</table>

Results show that F-statistic and significant levels confirmed that model is significance to test research hypothesis. Durbin-Watson test result is also indicates the lack of correlation between residuals (should be between 1.5 and 2.5). The results indicate that the hypothesis H1 is approval at 95 percent level of confidence and it can be expressed that earnings management reduces discretionary accruals companies listed on Tehran Stock Exchange and statistically due to the high T-statistic with probability of more than 95% is significant and cannot be rejected, so hypothesis H1 is approved.

CONCLUSION

Generally, in relation how earnings management impact on the quality of accounting information, there are two different perspectives. In first perspectives, management with the purpose of transferring of their private information are attempting to manipulate the accounting information. In such a situation, management involvement in the financial reporting process should lead to increased quality of reported data. In the second perspectives which have the greater public acceptance, earnings management have an opportunistic nature and they have been done in line with management’s motivation and personal interests. Therefore, we have to expect that earnings management decreases the quality of accounting information, as managed information no longer indicating their economic content of events.

In accordance with the procedure prevailing in the definition of earnings management, hypothesis suggest that earnings management reduced target values for each one of the characteristics of earnings and also leads to reduce the company's earnings quality score. The results of the study show that earnings management reduces earning quality of firms listed in Tehran Stock Exchange, also, earnings management decreases the quality of discretionary accruals earnings of listed companies in Tehran Stock Exchange.

In order to improve the quality of information and increase investor confidence to financial reporting, to the Stock Exchange and to Auditing Organization we recommends that financial reporting and disclosure requirements must be formulated in a way that minimized the use of management from financial reporting tools to manipulate accounting numbers.

REFERENCES


