

An Empirical Analysis of Earnings Management Motives in Firms Listed on Tehran Stock Exchange

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ABSTRACT

The purpose of this study is to investigate whether firms listed on Tehran Stock Exchange (TSE) conduct earnings management and to examine the impacts of specific firm characteristics and motives on it. We tested our hypothesis using a sample of 644 Firm-year observations across nine Iranian industries from 2003 to 2009. Kasznik model was employed for measuring earnings management and for the main analysis of the hypothesis a multiple regression was used. The results indicate that some Iranian firms engage in earnings management. The findings also demonstrate that firms with higher debt ratio, larger size, more changes of CEO and higher rate of return on assets are more likely to engage in earnings management while there was no evidence of taxation effect on earnings management.

Keywords: earnings management, discretionary accruals, Kasznik Model, firm characteristics

INTRODUCTION

Financial reporting should provide information that is useful to present and potential investors and creditors and other users in making rational investment, credit and similar decisions. The primary focus of financial reporting is information about an enterprise's performance provided by measures of earnings and its components. An understanding of earnings management is important to accountants because it enables an improved understanding of the usefulness of net income, both for reporting to investors and for contracting.

Net income is one of the factors that cause a reduction in risk imposed on managers. For this reason managers have a strong interest in accounting policy choice. Since managers can choose accounting policies from a set of policies recommended by Generally Accepted Accounting Principles (GAAP), they are expected to choose policies that maximize their own utility. This is called "earnings management".

A primary reason for us to carry out this study is to shed light on whether earnings management is conducted in Iranian companies. Despite substantial research on earnings management in some other countries, Iranian research has been quite limited in scope and sample size. So we undertake a comprehensive examination of earnings management in specific industries. On the other hand, the Iranian capital market structure differs from that in other countries like the U.S., so a comprehensive study in the Iranian context is necessary.

To determine which model to use in our main analysis, we tested the explanatory power of five basic modes of earnings management in different industry groups. To the best of author's knowledge, there is not any reference that deals with this issue.

Our results can help investors and creditors in Iranian economical environment assess the overall quality of financial reporting. It may also contribute to the earnings management literature in Iran.

This paper proceeds as follows. Section 2 provides a brief literature review. Section 3 develops the research design and describes the data. Section 4 presents the empirical results and section 5 concludes the paper.

LITERATURE REVIEW

Earnings management is made possible by the fact that Generally Accepted Accounting Principles (GAAP) do not completely constrain managers' choices of accounting policies and procedures. Such choices are much more complex and challenging than simply selecting these policies and procedures that best inform investors. Scott (2000) defined earnings management as "the choice of managers of accounting policies so as to achieve some specific objective."

According to the hypothesis of Positive Accounting Theory, we can think of earnings management as opportunistic behavior by managers to maximize their utility in the face of compensation, debt contracts and

political costs. However, we can think about earnings management from an efficient perspective and consider it as a communicator of inside information to investors.

Previous research has shown that firms that adjust earnings are smaller, less profitable, higher levered with lower growth (Beneish, 1999). Watts and Zimmerman (1978) identified firm size as a factor for earnings management. They suggested that managers of large firms are more likely to engage in income-increasing earnings activities to reduce political exposure. In contrast, Holland and Jackson (2004) argued that large firms have incentives to avoid earnings management as they are subject to more scrutiny from analysts, investors, and the regulators.

Studies have identified different factors affecting earnings management based on firm characteristics in their socio-economic environment. Othman and Zeghal (2006) detected earnings management motives in Canadian and French firms. They found evidence that incentives for earnings management for French firms are specially linked to contractual debt costs and effective tax rate. However, issuing equity is a strong motive for earnings management in Canadian firms.

Sinegar and Utama (2008) examined the impact of firm size on type of earnings management and found inconsistent evidence. Rath and Sun (2008) documented strong evidence of size and return on assets (ROA) being primary determinants of earnings management in Australia. Duh *et al.* (2009) stated that Listed companies in Taiwan with higher debt ratios are more likely to conduct earnings management to avoid violation of debt covenants.

DATA AND METHODOLOGY

Evaluation of earnings management measurement models

According to earnings management literature, analysis of earnings management often focuses on management use of discretionary accruals. Such research requires a model that estimates the discretionary component of reported income. Discretionary accruals are used as a proxy of earnings management. Some of the basic models for measuring earnings management are the Jones Model (1991), the modified Jones Model (1995), the Kasznik Model (1999), the Dechow and Dichev Model (2002), the Kothari Model (2005), and the modified Dechow and Dichev Model (2006).

To determine which model to use in our main analysis, we evaluated the explanatory power of each model. Because earnings management should be measured in each and every industry group, we divided our sample into nine different industry groups and calculated R square, R, significance level and Durbin-Watson. As an example, the results for each model in Automobile industry are presented in table 1.

Table 1. Evaluation of Earnings Management Measurement Models

measurement model	Observations (firm-year)	R ²	Adj R ²	Durbin- Watson	F	Sig
Jones Model (1991)	125	0.222	0.203	1.763	11.596	0.000
modified Jones Model (1995)	125	0.066	0.043	1.879	2.865	0.040
Kasznik Model (1999)	125	0.559	0.544	1.776	38.281	0.000
Dechow and Dichev Model (2002)	125	0.014	0.012	1.580	0.423	0.792
Kothari Model (2005)	125	0.081	0.051	1.885	2.670	0.035
modified Dechow and Dichev Model (2006)	125	0.080	0.033	1.583	1.721	0.122

The results documented the superiority of the Kasznik model in all industry groups, so we employed this model for measuring earnings management in our main analysis. Kasznik model in a regression equation form is as follows:

Formula 1. Kasznik model

$$\frac{TA_{it}}{A_{it-1}} = \alpha \left(\frac{1}{A_{it-1}} \right) + \beta_1 \left(\frac{\Delta REV_{it} - \Delta REC_{it}}{A_{it-1}} \right) + \beta_2 \left(\frac{PPE_{it}}{A_{it-1}} \right) + \beta_3 \left(\frac{\Delta CFO_{it}}{A_{it-1}} \right) + \varepsilon_{it}$$

Where:

i and t are indices for firm and time periods

TA_{it} is total accruals being the difference between net operating income and operating cash flows

A_{it-1} is the beginning total assets

ΔREV_{it} is the change in revenues from period t-1 to t

ΔREC_{it} is the change in net accounts receivable from period t-1 to t

PPE_{it} is net property, plant and equipment

ΔCFO_{it} is the change in cash flows from operations from period t-1 to t

Data collection

The starting point for our sample is the population of all firms Listed on Tehran Stock Exchange (TSE) from 2003 to 2009. Then we exclude the following firms from our sample:

- 1- Firms with financial or banking activities.
- 2- Firms listed after 2003.
- 3- Firms that have changed their financial periods during 2003 to 2009.
- 4- Firms with missing values during 2003 to 2009.

These sampling criteria results in a final sample of 92 firms and 644 firm-year observations across nine industry groups. In the next step, we investigated the correlation of the dependent variable (earning management) and the independent variables (including debt ratio, firm size, changes of chief executive officer (CEO), income taxation and return on assets (ROA)) by multiple regression analysis.

DISCUSSION AND CONCLUSIONS

The test results of statistical research are shown in table 2.

Table 2. Regression Statistics

model	Unstandardized coefficients		standardized coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(constant)	-0.213	0.055	-	-3.849	0.000	-	-
Debt ratio	0.0808	0.033	0.105	2.484	0.013	0.705	1.418
Firm size	0.00834	0.004	0.101	2.374	0.018	0.698	1.433
Changes of CEO	0.01774	0.009	0.077	2.059	0.040	0.889	1.125
taxation	0.00226	0.001	0.067	1.607	0.109	0.728	1.374
Return on assets	0.251	0.046	0.282	5.502	0.000	0.476	2.100

On the basis of evidence presented in table 2, we found that debt ratio positively affects earnings management. According to Scott (2000), earnings management for covenant purposes is predicted by the debt covenant hypothesis of positive accounting theory. Given that covenant violation can impose heavy costs, firm managers are expected to avoid it. Thus, earnings management can arise as a device to reduce the probability of covenant violation in debt contracts.

Firm size is often used as a proxy for political sensitivity. Based on our results, firm size positively affected earnings management. This means that larger size firms tend to engage more in earnings management.

We also found that CEOs who are faced with termination engage in earnings management in the year prior to termination.

Income taxation is perhaps the most obvious motivation for earnings management. According to Scott (2000), it does appear that tax saving is an important factor to predict firms' accounting policy choices. But our results showed no evidence of a relationship between income taxation and earnings management. The reason seems to be the difference between the accounting standards, institutional structure and corporate governance of Iran with those in other countries like the U.S.

Our study found that profitability (return on assets) positively affects earnings management. Lower accounting profits provide motivation for earnings management because these firms are possibly facing financial constraints.

Our findings suggest that investors can rely more on the financial disclosure and earning figures of firms with lower debt ratio, smaller size, less changes of CEO and lower rate of return on assets. Investors should also consider that there is still a possibility of earnings management in these kinds of firms. These results highlight the need to consider additional disclosure requirements by regulators to enhance the overall quality of financial reporting.

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