

## The study of the effect of manipulating the sales activities, production and discretionary spending on the cost of financing of the companies Tehran Stock Exchange

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**Abstract:** The study of the effect of real earning management (earning management through manipulation of real activities) on the company's cost of capital. When the company's management to achieve a certain level of earnings, changes the level of real activity unusually, management of real benefit has been done. In this study, manipulation in three sale activities, production and related activities in optional cost (expenses that are under full control of management, including cost of propagations and research and development expenditure) was considered. The impact of each on the cost of the normal share capital companies has been investigated. The overall goal of this research is to study the position that whether the real activities of the management of company (here the activities of sales, production and optional activities) in order to manage earnings, has a significant impact on the cost of capital of the company or not? To test the hypotheses is used multiple regression analysis with panel data. In this approach, the three bound approach, fixed effects and random effects, using the test pattern (in this study, Leamer and Hausman test) are compared together and the best model is selected. It is recommended that investors and creditors before investing in companies, pay attention to real earning management in companies to prevent the transfer of funds to the companies with low earning quality.

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### Introduction

Financial reports are the main sources of information for economic decision-making, directors, investors, creditors and other users to meet their informative needs use them (Abraham KORDLAR and Hosni Azar Daryani, 1385). One of the objectives of financial reporting is the summary of information about the entity's financial performance for the period and the interest rate that plays an important role in measuring the performance of companies (Financial Accounting Standards Board issued a number of concept). Stock market participants, including investors and financial analysts pay much more attention to companies s earnings, On the other hand, managers tend that realize profit forecasts by stock market, because salaries and benefits are often tied to stock price performance (Savo, 2006).

Perhaps the financial information that is reported by business, profit has the highest position. In this chapter largely profit status and its importance in financial reporting, earning quality concepts, earnings accounting management, real earning management, quality metrics and earnings management through the manipulation of accruals and real activity is discussed.

### The need of doing research

Tehran Stock Exchange has not lived for longtime and it is somewhat inefficient. Mechanisms and rules governing this market is still not implemented in such a way that the quality of data and

provided information deliver member companies to optimal level.. Pension funds, investment trusts and insurance companies are owners of more than half of the ordinary shares issued in exchange of Tehran. In this case, minority of shareholders do not have any supervisory role. Although the audit of financial statements of companies listed on the stock exchange is required, but there isn't any rating agency or oversight mechanism for the review of the internal control system. Despite the recent attention to the issue of the Board of Directors and other issues related to executive directors (such as division of responsibility between managers and non-executive), the role of outside directors in Iran is very weak and it seems that there is not much attention to the issue of corporate ethics in Iran (Mashayekhi, and Mashayekhi, 2008). The lack of official financial analysts in market also means the absence of one of the factors influencing the increase in quality of data. While institutional investors also are on the rise, yet they do not play a significant role in improving the quality of financial data. Also, the capital market is lacking of the professional financial press that is one of the influential factors in maintaining and enhancing the quality of financial and accounting data. Therefore, the status and prospects of corporate governance and low impact on the preparation of financial data quality provides incentives to manage earnings (based on the accrual and manipulation of

real activity) in Iran. For these reasons, the real effect of manipulating the activity of the company justifies the cost of capital.

### **Background research**

#### **Foreign search**

About quality and earning accounting management, Gordon (1964) stated Factors affecting job security and income smoothing and said the more satisfaction the shareholders the more job security, income and well-being of management. Ashar and et al (1994) in their research about the factors affecting the firms' income smoothing in Singapore came to the conclusion that, except size, profitability of the company, industry and national factors also have effect on the income smoothing. The results Michelson et al (1995) showed that non-smoothers rather than smoothers companies have lower average risk. The size of the smoothing is greater than non-smoothing companies. The results of studies of Darvq and et al (1998) earning management in Japanese companies shows t that there is a relationship between the political costs, incentive plans, ownership structure and internal financial supply by manipulating interest. Bashi (1998) states that managers use to decrease of costs for research and development to achieve the desired level of profitability. Abarbanl and Lyhavy (1999) in their study concluded that the benefit is effective performance management. When managers are faced with limitations in increasing accruals, accruals management get more difficult. For example, companies that manage benefit from the accrual that in legal studies, stakeholders face with a higher risk (Dechow et al. 1996, Dyfand and Sabramanyam 1998, HnyngInternal investigations.

#### **Internal studies**

, MOTASEM (1376) in their study showed that managers of firms listed on Tehran Stock Exchange the smooth profit. And there is not a significant difference in terms of average annual returns between companies and non-smoothers. Khoshtinat Wakhani (1382) found that managers tend to increase their reward, in terms of profit and loss of company to pay income smoothing. Pourheydari and Hemati (1383) concluded that, on average, there is no significant positive relationship between the ratio of debt to equity and earnings. Evaluating the relationship between the size (total sales) and earnings have shown that increasing the size of the company, management had more incentives to increase profits in order to provide a better picture of its performance to shareholders and the authorities. Also, they concluded that companies that have more labor force, political pressure exerted on them is higher. As a result management of a companies to reduce pressure and reduce their profits. Mashayekhi and Mehran (1384) concluded that the surveyed companies reduced cash

flow from operating activities, which reflects the poor performance of business units. Due to compensate for this issue they increase profits by increasing discretionary accruals-out. Nikbakh, Sapasiand Norosh (1384) found that in Iran the large-companies apply to manage interest and motivation to apply this management with increasing debt is more and more. Pourheydari and Plato (1385) showed that smoothing is done with the use of optional items and income tax rate and off set in the operational activities are the key drivers of discretionary accruals for smoothing earnings.

#### **Real earning management:**

Means the actual manipulation of the normal activities of the Company in order to achieve certain levels of earnings.

#### **The cost of capital:**

The minimum of output that must be paid to the owners of capital so that their wealth is not reduced.

#### **The concept of earning quality**

Earnings quality theory first proposed by financial analysts and stock brokers, because they felt the that the reported earnings doesn't show power of a company's profitability as it deserves. They found that the analysis of financial statements due to numerous weaknesses in the accounting information is difficult to measure. The main reason of financial analysts that in their assessment don't use the reported net income or earnings of per share of companies, this is that they consider not only quantify the value of corporate profits, but also the quality of Note. The meaning of the quality of earnings is the potential profit growth and the probability of future profits. In other words, the value of a share does not depend only on earnings of per share in this year, but expectations of future corporate profitability and confidence over the coming years will depend on future earnings (Jahankhani and Zarififard, 1374).

#### **Hypotheses**

##### **First hypothesis:**

The manipulation of sales activity will increase the cost of equity.

##### **The second hypothesis:**

The manipulation of production activity increases the cost of equity.

##### **The third hypothesis:**

The manipulation of discretionary spending increases cost of equity.

#### **Data collecting method**

In this study, data collection was done in two stages. The first step to develop the theoretical foundations was used the library method (and referring to books, articles and dissertations submitted to the Information and Documentation Center of Iran) and in a second stage, to collect data on the form of

financial, information provided to the stock Exchange, and other relevant data sources such as database processing strategy and the new approach was also used by mining documents.

#### . Research models

In order to test hypotheses, first real earnings management metrics should be calculated. Therefore, the approach Roychvadary (2006) is used to measure manipulating the activity of sales, production and discretionary spending, respectively, the following models were evaluated:

$$CFO_{it} = \alpha_0 + \alpha_1 \frac{1}{A_{it-1}} + \alpha_2 Sales_{it} + \alpha_3 \Delta Sales_{it} + \varepsilon_{it}$$

$$PROD_{it} = \alpha_0 + \alpha_1 \frac{1}{A_{it-1}} + \alpha_2 Sales_{it} + \alpha_3 \Delta Sales_{it} + \alpha_4 \Delta Sales_{it-1} + \varepsilon_{it}$$

$$DISEX_{it} = \alpha_0 + \alpha_1 \frac{1}{A_{it-1}} + \alpha_2 Sales_{it-1} + \varepsilon_{it}$$

In the above models, CFO operational cash flow, PROD production costs (equal to the cost of goods sold in addition to the change in inventories of goods), DISEX discretionary spending, Sales Change in sale revenue and sale revenue and Sales, All variables are homogeneous with the total assets of the beginning of the period (Ait-1), Roychodari (2006) believes that manipulation of sales activity leads to cash flows that are significantly less than the planned rate (ABCFO) and manipulating the activity of production, production costs are significantly higher than the planned level (ABPROD). Also, to stop consuming activities of discretionary spending, leads to a significant decrease in discretionary spending of the planned level (ABDISEX). Thus, in the above models, the negative residual value model (3-1) and (3-3), and remain of positive model (3-2) represents a real benefit management event. In order to control the impact of earning management on the relationship between real earning management and the cost of capital, a measure of earning management using modified Jones model (1995) was calculated as follows:

$$TACC_{it} = \alpha_0 + \alpha_1 \frac{1}{A_{it-1}} + \alpha_2 (\Delta Sales_{it} - \Delta REC_{it}) + \alpha_3 PPE_{it} + \varepsilon_{it}$$

Where, TACC total accruals (equivalent to net income minus operating cash flow),  $\Delta S$  change in sale revenue,  $\Delta REC$  Change in debtors and fixed assets of company i in year t PPE I, all using the total amount of the assets matched at the beginning

. After estimation of the model (3-4), the remainder of the models (DAC) to be extracted as discretionary accruals and as an evaluation criterion for accounting earnings management have been

considered. In the end, to test the first hypothesis, model (3-5) is estimated as follows:

$$CoE_{it} = \alpha + \beta_1 Beta_{it} + \beta_2 Size_{it} + \beta_3 BTM_{it} + \beta_4 DAC_{it} + \beta_5 ABCFO_{it} + \sum_k \beta_k Innate Factor_{it} + \varepsilon_{it}$$

Where, CoE' is cost of normal shares using the Gordon growth model (1982) () is calculated in Gordon model  $DPS_{t+1}$  dividend profit coming period,  $P_t$  the stock market value of the current period and  $g$  the constant growth rate of dividend profit equals to the geometric mean of change percentage in the dividend policy is reviewed. Also,  $Beta_{it}$  is the systematic risk of the stock using regression shape of the capital asset pricing model using monthly data for each company in the period under study have been calculated. Variable  $Size_{it}$  is size of company (natural logarithm of the total market value of shares) and  $BTM_{it}$  is the ratio of book value to market value of the company.

#### Statistical Society

Population includes all companies listed in Tehran Stock Exchange in the period 10 years old from 1383 to 1392

The sample size was 243 companies whose data were used to test research hypotheses.

#### Descriptive statistics

Descriptive statistics of the main variables in Table (4-2) are provided. The presented results show that the average (median) of total variables accruals is 02 / 0- (0.00), sale revenue 65/3 (15/1), changes in sales revenue of 36/2 (13/0), changes in debtors 12 / - 0 (03 / 0-), fixed assets 36/2 (35/0), operating cash flow 83/0 (14/0), production costs 56/3 (15/1), optional expenses 14/0 (05/0), cost of equity 26/0 (25/0), systemic risk 02 / 0- (03 / 0-), size 50/12 (49/12), the book value stock market value 68/0 (66/0), discretionary accruals 01/0 (02/0), the overall real earning management 02/0 (01/0), abnormal operational cash flow 1 01/0 (01/0 ), abnormal production costs 03/0 (02/0) and unusual discretionary spending 03 / 0- (03 / 0-).

Fluctuations in operational cash flow is 50/1 (05/1), fluctuations in sales 54/2 (91/1), operational cycle 27/114 (17/114) days, compression of intangible assets 05/0 (02/0), capital intensity 05/0 (05/0), financial risks 50/0 (49/0), long-term growth rate of earnings 05/0 (04/0) and changing the volatility (standard deviation) annual return on equity of 50 / 0 (51/0). Also, in the image (4-2) of maximum, minimum, and standard deviation of observations on each of the main variables is provided.

Symbol	mean	average	maximum	minimum	Standard deviation
TACC	02/0-	00/0	04/7	58/3-	86/0
Sales	65/3	15/1	21/49	00/0	10/7
ΔSales	36/2-	13/0	90/46	61/117-	11/18
ΔREC	12/0-	03/0-	61/19	81/14-	27/3
PPE	36/2	35/0	83/28	00/0	64/5
CFO	83/0	14/0	88/18	80/1-	75/2
PROD	56/3	15/1	40/29	29/0-	70/5
DISEX	14/0	05/0	23/1	00/0	23/0
CoE	26/0	25/0	63/0	01/0	38/0
Beta	02/0-	03/0-	39/3	21/3-	98/0
Size	50/12	49/12	00/13	00/12	29/0
BTM	68/0	66/0	93/0	04/0	40/0
DAC	01/0	02/0	35/0	44/0-	57/0
REM	02/0	01/0	76/1	05/1-	74/1
ABCFO	01/0	01/0	47/0	69/0-	97/0
ABPROD	03/0	02/0	71/0	13/0-	01/1
ABDISEX	03/0-	03/0-	57/0	24/0-	98/0
StdCFO	50/1	05/1	85/14	02/0	45/1
StdSales	54/2	91/1	15/21	05/0	12/2
OpCycle	27/114	17/114	55/230	60/0	74/66
Intangible_Int	05/0	02/0	34/1	00/0	09/0
Capital_Int	05/0	05/0	10/0	00/0	03/0
Lev	50/0	49/0	00/1	00/0	29/0
Ltg	05/0	04/0	33/3	30/3-	01/1
IdioSync	50/0	51/0	00/1	00/0	29/0

**To test hypotheses**

To test the hypotheses, models (3-5) with the insertion of standards of sale management, production and management of consuming discretionary activities and standard of real earnings management instead of

each other and approach of combined data was estimated lack of meaningful statistics Chow in all the estimates show that model (3-5) should with the approach (pooling) be estimated.

Figure (4-4): models with panel data

symbol	H1		H2		H3		The main hypothesis	
	coefficient	significant	coefficient	sig	Coefficient	sig	Coefficient	sig
α	*09/0		**01/1	00/0	*07/1	01/0	**08/1	00/0
Beta	**09/0		**08/0	00/0	*09/0	04/0	**10/0	00/0
Size	**10/0-	01/0	*10/0-	01/0	**11/0-	00/0	*11/0-	04/0
BTM	**10/0	00/0	**09/0	00/0	*09/0	03/0	**08/0	00/0
DAC	*13/0	00/0	*11/0	04/0	*12/0	02/0	*10/0	03/0
REM		03/0					*12/0	02/0
ABPROD	*85/0		*10/0	01/0				
ABDISEX		04/0			03/0	07/0		
StdCFO	*11/0		13/0	06/0	**13/0	00/0	*09/0	04/0
StdSales	**12/0		**09/0	00/0	*08/0	04/0	*07/0	03/0
OpCycle	*03/0	01/0	01/0	12/0	01/0	16/0	02/0	26/0
Intangible_Int	**12/0-	00/0	06/0-	16/0	*10/0-	02/0	*07/0-	02/0
Capital_Int	09/0	03/0	13/0	30/0	06/0	63/0	09/0	30/0
Lev	01/0	00/0	03/0	64/0	01/0	38/0	02/0	12/0
Ltg	**10/0	49/0	**10/0	00/0	**11/0	00/0	**06/0	00/0
IdioSync	02/0	96/0	*03/0	04/0	02/0	76/0	*04/0	04/0
Adjusted coefficient of determination	%30/77		%54/78		%17/77		%06/81	
Fisher statistics (significant)	**33/637 (00/0)		**81/684 (00/0)		**41/632 (00/0)		**45/1521 (00/0)	
Durbin-Watson	03/2		03/2		99/1		02/2	
Chow statistics	82/0		28/1		37/0		04/1	

Also, a significant statistic of Fisher all estimates at 1%, represent significant value of total model and amount of camera Watson s statistics show that there is no the problem of the first order serial autocorrelation in disturbing elements of the estimated model.

The results (3-5) to test the first hypothesis suggests that the systematic risk factor is variables (09/0), the size is (10 / 0-), the book value to market value (10/0), fluctuations in sales is (12/0) and long-term growth rate of earnings (10/0) are significant at the 1% level. Factor variables of discretionary accruals is (13/0), abnormal operational cash flow (vary from 850), fluctuations in cash flow (11/0), operational cycle (03/0) and the compression of intangible assets (12 / 0-) is significant at the 5% level. The results (3-5) to test the second hypothesis suggests that factor variables of the systematic risk (08/0), the ratio of book value to market value (09/0), fluctuations in sales (09/0) and the growth rate of long-term benefit (10/0) at 1% and the coefficient of

variable size (10 / 0-), discretionary accruals (11/0), abnormal production costs (10/0) and the volatility of stock returns (03/0) are significant at the 5% level.

### The results

The main hypothesis of this study predicted that total earnings management increase the company's cost of capital. To test the hypothesis of the study, using three sub-criteria, real earnings management, overall measure of real earnings management is investigated by calculating the cost of capital. The results of the study hypothesis suggests that there is a significant positive correlation between the overall measure of earnings management and the company's cost of capital.. This generally indicates that earnings management through manipulation of sales and production activities (and not discretionary spending) lead to increase the cost of financial supply of the company. The overall result of this investigation is compatible with the findings of Lambert et al. (2007), Brown and Higgins (2001) and Kim and Charlie Sun (2013).

The research hypotheses	Accept/reject	Relation type
The first hypothesis	Accept	There is a significant positive correlation
The second hypothesis	Accept	There is a significant positive correlation
The third hypothesis	Reject	There is no significant positive correlation
The main hypothesis	Accept	There is a significant positive correlation

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