



## The Analysis Of The Relationship Between Real Earning Management And Information Efficiency In Tehran Stock Exchange

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### Abstract

Most of the researches performed at the field of earning management were with accrual-based, and the relation to other variables with this analysis approach has been analyzed and identified and few studies have been conducted with the approach of the actual items. In this article, the researcher analyzes real earning management through sales and administration expenses, and long lived assets with administrative efficiencies towards signaling like 30-day and 60-days efficiency. Research's method is post-occurrence-correlation which utilizes multiple regressions test for the sake of hypotheses test. Research's results are emblematic of existent relation between earning management's 30-day-information-efficiency, however, no relation has been observed with 60-day-efficiency.

**Keywords:** Information Efficiency, Real Earning Management, Administrative and Sales Expenses, Long-term Assets, Production Expenses and Tehran Stock Exchange

### 1. Introduction

Net result calculation of an exploitative is affected by accounting's methods and estimations which provide the possibility of manipulation of earning by management, and due to fragments of accounting's congenial restrictions and available inadequacies in estimations procedures and future predictions and the use of different methods have resulted in the real earning differing from reported profit in financial inventories, and the issue of earning management will be broached. In accrual accounting system, financial events occur without regard to reception and payment time resulting from them in recording time. Owing to this, accounting profit is composed of two components of cash flow and accrual items in accrual systems. Since managers have more latitude regarding revenue recognition time and expenses according to Generally Accepted Accounting Principles (GAAP), it can be concluded that a part of accrual items will be



created in the normal process of commercial complexes activities (optional non-accrual items) and only a part of these items is exposed to management's manipulation (optional accrual items). Thus, it seems that the flaw coming to accrual accounting system results from former parts, so it is expected that the companies which have high level of accrual items undergo more expense so as to provide financial security, and they consequently encounter with reduction of stock efficiency in the future. From the other side, financial security expenses the increase will bring forth reduction of companies' motivation for foreign financial security. So it is expected that investments in investment assets have more sensitivity to the level of accessibility to internal cash flows of the company. Besides this, given the less concreteness of accrual items in proportion to cash flows, it is predicted that with the increase of the share of these items in accounting profit, investment decisions will have less efficiency. Crating the motivation of the manipulation of the current course's profit, and the expense of profit in future course are one of the concerns of managers on current performance. Stein (1989) and Fudeuberg & Tirol (1995) state that this managerial pessimism is the result of foreign investing and the analyzers that who rely on current course profit. The expected time from future profit and different types of contraction's commitments such as reward contractions based on profit, debt contractions that in most cases is related to reported profit in current course to the extent that managers accentuate the increase of linear performance like the cost of stock, and motivation to increase current profit by borrowing from future profit for using current course.

Earning management, management's general interference in the process of determining profit is towards management's optional goals (Wilde & Bernstein & Subramanyam 2001). Generally, it is imagined that the presence of institutional investors might result in companies' behavioral difference in earning management due to their supervisory activities (Karlocbauala1997) and (Loyojnkinz2006), this explains why companies whose most stocks belong to institutional investment use earning management to achieve predetermined index of the profit with more prediction. Hels & wenorman (1992), Motsoumato (2002), managers aggress to manipulate real financial events with the motivation of achieving a verge of a beneficial and given profit or to preserve the last year's situation which causes change in cash flows and even changes accrual items in some respects (Roychowdhury, 2004). Schipper (1989) believes that earning management is a purposeful interference in the process of financial reporting outside of company with the purpose of fulfilling personal interests. Real earning management is predicated on procedures that managers do outside of natural business methods (Cohen, D. & P. (2008) Zarowin). Operating abnormal cash flows (Reshaderi, 2006), abnormal sales, public, administrational and organizational expenses (Ghani, 2009) are the signs of real earning management existence. To make clear the real earning management's relation and information



efficiency, the main emphasis is upon real earning management's profit effect on information efficiency. Given the issues above, the research's main question is formed in this way: does real earning management have connection with information efficiency? Or in other words, does the given information efficiency of investors occur considering real earning management's policies through real activities? In this study, real earning management is utilized with three approaches, 'real earning management through administration and sales expenses, production and long term assets.

## 2. Research's Literature

Real financial events' manipulation is used as deviating normal operating activities of company by managers who mislead beneficiaries. The aforementioned deviation of manager will help in achieving financial reporting goals, but it doesn't increase the companies' value. Real financial events manipulation methods will help managers such as the reduction of sale's cost with the purpose of increasing sale's production, or the reduction of optional expenses in economical crises that are of appropriate methods. However, the manager's widespread and abnormal uses of these methods are illustrative of managers' declination to earning management through financial events (Roychowdhury, 2006). Real earning management is predicated upon opportunistic timing and structuring of operational contractions, financial and investment supply by commercial complexes management with the purpose of influencing reported profit towards special direction that the company will undergo future economical expenses and consequences, firm evidences are related to this issue that to achieve goals related to their commercial complex's profit, managers will proceed to real earning management and optional accrual items of earning management. Optional accrual items management is predicated upon manager's opportunistic use from available flexibility in accounting's accepted principle for the sake of changing reported profit, without causing any change in company's infrastructural cash flows (chen,J.Z, 2009) earning management is through accrual items including usage of accounting methods for manipulating the profit; while, earning management through real events methods includes changing contraction's timing and structure so as to manipulate the profit. Thus, it can be concluded that making the accounting standards precise will decrease accrual items manipulation and it might not have any influence on real financial events, and it can even cause its increase. In other words, in spite of firm accounting standards (or more obligations), managers, from earning management, change approach through accrual items to earning management through real financial events which is costly and decreases company's value; since such activities can have negative influences on cash flows of future courses. For instance, product's sales price decrease with the purpose of increasing sales volume causes customers to expect such decreases in future courses that may result in the decrease of sales profit verge in



future courses. Extra production will also result in the increase of goods inventory and preservation expenses (Graham et al, 2005) of important differences of two aforementioned methods are earning managements through real financial events against earning management through accrual items happening mostly during fiscal year. When manager predicts that she won't reach the given profit, and he is confronted with restrictions in the usage of accrual items manipulation, he manipulates real financial events. To reach a clear profit goal, managers can wait till the end of fiscal year, and they can use optional accrual items with the purpose of earning management. But the danger of this method is that the level supposed to be manipulated might be bigger than optional accrual items. Thus, if the goal of the given profit might not be fulfilled through this method at the end of the fiscal year. So, managers decrease this danger through real financial events manipulation during fiscal year (Yu, 2008).

### **3. Research Background**

Thomas and Zang (2002) analyze the balance between accrual items manipulation and real profit's management of the profit. They showed that the managers prioritize the decisions concerning real activities manipulation in proportion to accrual items manipulation. Research's results are emblematic of real activities manipulation's direct connection with related expenses to accrual item's manipulation.

Ort and Wagonhofer (2005) research's results illustrate that managers, in spite of available strict standards, use real earning management instead of using accounting management's profit.

Ghani (2005) states that the assets' sales timing can be used as a method towards reported earning management. Fixed asset's sales timing is one of the options of management's development of every company, and related profit and loss during sales will be reported in the face of profit and loss, the evidence resulted from this study is illustrative of management's development opportunities towards manipulation in the profit.

Gramm and the collaborators' research's result (2005) shows that the managers prefer real earning management's activities in comparison with accrual items management. This is why management's real activities can be unpredictable than commercial optimum decisions, and as a result its discovery more difficult, however, expenses available in these activities might be more important for company from economical point of view. They reached this result that accepted operational cash flows for deferring or decreasing the budget of travelling and preservation expense will result in transformation or investing investment omission (for abstaining from depreciation expenses), transforming assets into bonds that can be traded and payments supply management of retirement designs.



Reshaderi (2006) follows earning management discovery through real operational manipulation. The main focus of the study is on Operating Cash Flow (OCF), production expenses, and optional expenses. These are the variables that are rather free from the effect of accrual items' manipulation. To determine the normal levels of these variables, by using an ordinary model, researcher shows that the companies that report positive annual profits, their OCF is strangely low, and their production expenses are strangely high. This research's evidences show that by presenting reasonable discounts for sales' transitory increase and by inordinate production for decreasing sold item's finished price, companies avoid reporting the loss. Besides, companies decrease optional expenses for reporting more margin profit. Variety analysis in essence and the degree of real operational manipulation among companies will elucidate these cases: companies whose current asset level is traditionally low will act more aggressively in presenting discount and decreasing optional expenses. Manufacturing companies will more probably act in ways that will result in the strange increase of production expenses relation (the total of sold item's finished price) to their sales.

Roy Chodheri (2006) focuses on real activities manipulation in a way that he views real activities manipulation as managerial action that diverts from normal operation activities process of commercial complex. It happens with the purpose of misleading special stock holders. According to Chodheri's study, managers present reasonable discounts in order to increase their own sale transitorily, they also decrease their optional expenses in order to improve the margin of reported profit and they intend to increase production so as to decrease sold item's finished price. For instance, when the managers tend to present remarkable discount at the end of the year so as to increase the company's sale, the volume of manufactured differential sale will be destroyed at the time of reenacting the past prices. Actually, this action will transmit the future earning to the current course; as a result, the future earning will be deteriorated by sales management. Generally, manipulating real activities occurs through wide complex of operational decisions that can have important economical effect on operational performance.

Mizik and Jacobson (2007) found in their research that the companies that have more tendencies for earning management through real activities manipulation will gain very lower stock's future output than other countries.

Chen and the collaborators (2007) analyzed the possessive expenditure (reward) that the market was giving to the companies that made the result of their own operations nearer to analysts' prediction. They analyzed 8977 stock companies of New York during 2006-1987. The results showed that the market's expenditure exists for all companies that it makes company nearer to





analyst's prediction by using earning management. But this reward will fall as much as 1/3 for the companies that use real earning management.

Zang (2007) in the analysis of this issue that which one of the managers uses earning management through accrual items, and which one uses earning management through real activities proved that the manipulation of real activities has PRECEDENCY over accrual item's manipulation. Zang analyzed potential expenses of accounting's manipulation (accrual items) and finally stated that companies that have more risk of juridical litigation have more inclination for manipulating real activities. He also found out that the companies' managers use real activities manipulation and accrual item's manipulation as a substitution for each other. Manipulating real activities has positive relation with accrual item's manipulation, and accrual item's manipulation has negative relation with real activities manipulation.

Yo's findings (2008) are emblematic of this matter that strong motivation for earning management will manipulate real activities more than other companies. The result of study also shows that real activities manipulation might damage company's economical value in long term.

Cohen and Zaroin (2008) analyzed activities related to accrual item's management and real earning management around stock's secondary supply. The result of this research showed that operational procedure of the companies that have attended real management around stock's secondary supply has decreased rather than the companies that have used accrual item's management for their own earning management.

Kim and Soon (2009) studied about real earning management against accounting management and investment and concluded that investment's expense has positive relation with real earning management earning accounting management, but this relation is more meaningful than earning's real management.

Cohen, Dee, Lee analyze this issue in their study that specialist customers of specialist auditors of industry who have earning management motivation are stuck in impasse for manipulating accrual items; therefore, they probably manipulate real operations. They analyze companies' operational efficiency suspected of manipulating real operations as well. His findings show that customers of specialist auditors of industry have earning management motivation, their absolute power of accrual items is less than the companies which have earning management motivation, and they don't undertake specialist auditor's of industry. These specialist auditors of industry will most probably manipulate real activities which is the emblematic of unfavorable potential consequences of using specialist auditors of industry. Found evidences illustrate that future



operational efficiency companies suspected of manipulating real operations is less than the companies which are not suspected of manipulating real operations.

Jey and Kim (2010), real earning management (real activities management, or trade oriented earning management) occurs when management undertakes some actions for manipulating earnings that are beyond ordinary commercial processes. In comparison with artificial earning management, real earning management carries more ambiguity earning, and its discovery is difficult for stockholders, auditors, and legal authorities; therefore, its next legal consequences will probably be lesser.

Taylor Vajohai (2010) concluded in his analysis that real earning management through manipulating real activities will result in meaningful effect in future operational efficiency of the company.

Chimpan concluded that the companies in the last three months of the year fulfill the earning's goals through manipulating real activities such as lowering the price with the purpose of sales temporary accelerating. Companies in competitive positions also show more reaction than earning management's motivation.

Jao and collaborators (2011) analyze protection's effect through confiscating possession on real earning management, and future operational procedure. The results of this study show that the companies that are less under possessive confiscation have higher level of real earning management, and these countries have less future operational efficiency.

#### **4. Research Objectives**

- 1- Real earning management's relation analysis through managing administrative, public and sales expenses with information efficiency (30 and 60 days) in accepted companies in Tehran's Stock Exchange
- 2- Real earning management's relation analysis through managing production expenses with information efficiency (30 and 60 days) in accepted companies in Tehran's Stock Exchange
- 3- Real earning management's relation analysis through managing through long term assets sales (30 and 60 days) in Tehran's Stock Exchange
- 4-

#### **5. Research Hypotheses**



Research Hypotheses that are compatible with research's title are edited as follows:

- 1- There is a connection between real earning management and information efficiency.

Minor hypotheses resulted from research are as follows:

- 1- There is meaningful linear relation between real earning management through managing administrative, public, and sales expenses with information efficiency (30 and 60 days).
- 2- There is meaningful linear relation between real earning management through managing production expenses with information efficiency (30 and 60 days).
- 3- There is meaningful linear relation between real earning management through managing long term asset's sales with information efficiency (30 and 60 days).

## 6. Research Methodology

The present paper is a branch of casual researches with correlation procedure, and is of the developmental-functional type which analyzes linear relation between research's variables, and F and T components are used for related tests by the credit of models and their coefficients. Research's statistical society is comprised of all the accepted companies in Tehran's Stock Exchange, and 61 companies are selected during 1388 until 1390 by applying required conditions and limitations as selected statistical samples. Research data from published reports by Tehran's Stock Exchange and Rah Novin software package, and websites [WWW.rdis.ir](http://WWW.rdis.ir) and [WWW.irbourse.com](http://WWW.irbourse.com) are compiled. Information analysis are done by Excel and SPSS16.

### *1.6 Research Variables*

In this study, real earning management as independent variable and information efficiency as dependent variable and firm measure variables, Amihud illiquidity ratio, Natural logarithm of share turnover as control variables are taken under consideration.

Real Earning Management influences operational pecuniary flows directly, and decreases the value of the company in long term. In this kind of management, by adopting some operational decisions, or in other others manipulating real activities, managers have recourse to real earning management, and gain their given profit. In this study, to measure this kind of management, three presented proxies are used below:

Ordinary level's estimation model of administrative, public, and sales expenses

By following Anderson and collaborators (2003) the formula below is used to estimate ordinary level of administrative, public, and sales expenses:





$$\text{Log} \left( \frac{\text{SG\&A}_t}{\text{SG\&A}_{t-1}} \right) = \alpha_1 + \alpha_2 \text{Log} \left( \frac{S_t}{S_{t-1}} \right) + \alpha_3 \text{Log} \left( \frac{S_t}{S_{t-1}} \right) \times \text{DSt} + \alpha_4 \text{Log} \left( \frac{S_{t-1}}{S_{t-2}} \right) + \alpha_5 \text{Log} \left( \frac{S_{t-1}}{S_{t-2}} \right) \times \text{DSt-1} + \varepsilon_t$$

SG&At= administrative, public, and sales expenses

St= pure sale

DSt= virtual variable for increasing sales that if  $S_{j,t} < S_{j,t-1}$ , then it is equal with one, i.e. when sales salary decreases between the years t and t- it equals one, otherwise zero.

The model above controls cohesion behavior of expenses. Cohesive cost is a type of cost whose measure of increase, when sales cost increases, is more than its decrease when sales cost decreases to the same extent. Anderson analyzed administrative and public expenses against sales, and he found that differences between them are not equal, in other words, administrative, and public expenses are considered as cohesive expenses; because they are comprised of items that do urgent management even in the face of decline of sales cost.

Ordinary level's estimation model of production expenses: by following Roychodheri model (2006).

$$\frac{\text{Prod}_t}{A_{t-1}} = \frac{\alpha_1}{A_{t-1}} + \alpha_2 \frac{S_t}{A_{t-1}} + \alpha_3 \frac{\Delta S_t}{A_{t-1}} + \alpha_4 \frac{\Delta S_{t-1}}{A_{t-1}} + \varepsilon_t$$

Utilized variables in these models are as follows:

Prodt= finished value of sold item (COGS,t) + in stock variation of the first course and the end of the course ( $\square$ Inventory)

St=pure sale

$S_t \square$  = t year's sales variation with t\_1 year's sales

$A_{t-1}$ = the total of company's assets at the end of t\_1 course

Ordinary level's estimation model of non-operational profit resulting from long term assets' sale by following Ghani (2005)



$$\frac{GLA_t}{A_{t-1}} = \frac{\alpha_0}{A_{t-1}} + \alpha_1 \frac{PPESales_t}{A_{t-1}} + \alpha_2 \frac{ISales_t}{A_{t-1}} + \alpha_3 \frac{\Delta S_t}{A_{t-1}} + \varepsilon_t$$

GLA<sub>t</sub>= advantages and disadvantages resulting from the sale of properties, machineries, equipments, and long term investment

PPESale<sub>t</sub>= properties, machineries, equipments' sales price

ISale<sub>t</sub>= long term assets' sales price

□ S<sub>t</sub>=t year's sales variation with t<sub>-1</sub> year's sales

A<sub>t-1</sub>= the total of company's assets at the end of t<sub>-1</sub> course

Information Efficiency (dependent variable)

In the present study the standards below will be used for calculating information efficiency:

**1-2-11-1** thirty-day-information efficiency

$$R_{30,t} = \frac{P_t - P_{t-1}}{P_{t-1}} * 100$$

R<sub>30,t</sub>= -stock price output in day 30 of t month

P<sub>t</sub>= stock price in day 30 of t month

P<sub>t-1</sub>= stock price in day 30 of t-1 month

Price output of day 1 in each month

$$R_{1t} = \frac{P_t - P_{t-1}}{P_{t-1}} * 100$$

R<sub>1t</sub>= every month's first say output

P<sub>t</sub>= every t month's first day stock price

P<sub>t-1</sub>= every t-1 month's last day stock price



After calculating the day 30 of every month (for every company) variance output is calculated separately for every outputs, then the first day variance will be divided on variance day 30 (for company's each day. Through this information efficiency  $IE_1$  (1 and 30) will be calculated.

$IE_2$  efficiency (a and 60) will be calculated by this similar method, with the difference that of 60 day price output instead of 30 day price output.

#### Firm Size

There are different variables to measure "Firm Size" variable that are as follows:

The value of all properties, the measure of sales, and the number of total staff, natural logarithm of share turnover

In this article, natural logarithm of share turnover is used to measure "Firm Size" variable that as a natural logarithm the number of shares multiplied with share price will be calculated at the end of the year.

#### Amihud illiquidity ratio

Amihud illiquidity ratio will be calculated by monthly definite share's mean output in every Rial for the volume of trades. The aforementioned criteria for 12-month-course are calculated according to fiscal year.

$$ILLiquidity = average \frac{|rt|}{volume t}$$

ILLiquiditly= illiquidity ratio

$R_t$ = share's output in t course

$V_t$ =share's volume of trades in t course

#### 5-11-1 Share's movement's natural logarithm

The number of traded shares divided in the number of shares in the hand of shareholders will be obtained via logarithm. The calculation is occurred according to fiscal year in a twelve-month-course.

$$TURN = Ln\left(\frac{Numbers\ of\ Transfer\ Stock}{Number\ of\ stock}\right)$$



## 7. Research Result

First we tend to analyze the analytical-descriptive results of research variables that are central and scattered indices, and they are described in table 1 and are observable.

Table 1: Research Variables Description							
observations	Min	Max	Standard Division	Variance	Median	mean	Index Variable
61	0.07	1.58	1.06072	1.125	2.8254	2.9382	Real earning management using production expenses
61	0.70	6.41	0.26247	0.069	0.5528	0.5510	Real earning management using sales, administrative and organizational expenses
53	-1.08	0.08	0.15068	0.023	0.0118	-0.0359	Real earning management using production expenses long term assets
61	0.044	1.02	0.12261	0.015	0.8960	0.8679	30 day efficiency
61	0.71	1.00	0.0674	0.005	0.952871	0.926632	60 day efficiency
61	0.09	18655.82	0.2630	0.069	0.0033	0.0681	Amihud liquidity ratio
61	-6.69	0.28	0.90090	0.812	-2.4849	-2.6037	Natural Logarithm
61	20.30	29.42	1.89500	3.591	24.7434	24.7051	Firm Size

### 7.1 The Analysis of Data's Normalcy

To analyze data's normalcy, Kolmogorov-Smirnov (KS) is used using SPSS software whose results are shown in table 2 for all dependent and independent variables.

Table 2: Normal Distribution Test				
Result	P-Value	Standard Deviation	Mean	Index Variable
Accepted - Normal	0.097	0.12	0.87	30 day efficiency
Accepted - Normal	0.067	0.07	0.93	60 day efficiency
Failed-abnormal	0.000	2630.64396	681.7601	Amihud liquidity ratio
Accepted-Normal	0.270	0.90090	-2.6037	Natural Logarithm
- Accepted Normal	0.000	1.89500	24.7051	Firm Size
- Accepted Normal	0.855	0.26247	0.5510	Real earning management using sales, administrative and organizational expenses
- Accepted	0.749	1.06072	2.9382	Real earning management using production expenses



Norma				
Failed-abnormal	0.000	0.15068	-0.0359	Real earning management using production expenses long term assets

Given the table 2 results, dependent variable of information efficiency (30 day and 60 day) have normal distribution (Sig more than 5 percent). To perform regression test, it required that dependent variables have normal distribution; therefore, dependent variables of this research have normal distribution, and they can be used as regression model.

### 7.2 Correlation Test among Variables

In table 3, Pearson and Spearman coefficients are used for correlation between dependent and independent and supporting variables

Table 3: Correlation Test among Variables							
Natural Logarithm of Stock Market Value	Market Size	Amihud illiquidity ratio	Assest	Production	RMT		
-0.092	0.307	-0.331	-0.199	0.136	-0.017	Correlation Coefficient	Information Efficiency (30day)
0.482	0.016	0.009	0.154	0.295	0.897	Sig	
Failed-non-correlation	Accepted-Correlation Existence	Accepted-Correlation Existence	Failed-non-correlation	Failed-non-correlation	Failed-non-correlation	Result	Information Efficiency (60)
-0.169	0.190	-0.349	0.002	0.199	0.002	Correlation Coefficient	
0.193	0.142	0.006	0.987	0.123	0.987	Sig	
Failed-non-correlation	Failed-non-correlation	Accepted-Correlation Existence	Failed-non-correlation	Failed-non-correlation	Failed-non-correlation	Result	

Table 4 results are emblematic of 30 day information efficiency correlation non-existence with independent variables of research (RMT, Production & Assets) and supporting variables of stock market value's natural logarithm when there is meaningful correlation with supporting variable of Amihud illiquidity ratio and firm size. As regards 60 day information efficiency, there is still non-correlation between independent variables of the research, and like 30 day efficiency, there is a meaningful correlation between Amihud liquidity ratio and firm size. Supporting variables of stock market value's natural logarithm have no meaningful correlation.

### 7.3 Hypotheses Test





Multiple regression testing is used for hypotheses test of the research. Given that there are two approaches of 30-and 60-day-information efficiency in information efficiency field in this research, every hypothesis is tested by these two approaches.

### 7.3.1 The First Hypothesis Test

**Hypothesis:** There is a meaningful linear between information efficiency and real earning management through administrative and sales expenses.

Now, 30-day and 60-day-information efficiency is used for the first hypothesis test. First hypothesis test results are shown in table 4.

Table 4. First Hypothesis Test						
IE(60)			IE(30)			
0.246			0.458			Correlation Coefficient
0.060			0.210			Determination Coefficient
-0.07			0.153			Regulated Determination Coefficient
0.067			0.127			Estimation Standard Error
1.588			1.537			Durbin Watson Coefficient
0.9			3.719			F Statistic
0.470			0.009			Sig
P-Value	t	Beta	P-Value	T	Beta	
0.000	7.017	0.842	0.015	2.515	0.503	C
0.199	-1.299	-4.393	0.035	-2.159	-1.21	ILLIQ
0.363	0.916	0.004	0.020	2.399	0.019	Size
0.997	0.003	3.228	0.087	1.742	0.029	Turn
0.464	-0.737	-0.006	0.713	-0.370	-0.005	RMT

We analyze Table 4 results in two approaches of -and 60-day-information efficiency in information efficiency.

#### *30-day-information efficiency*

Given the table 1 results, Durbin Watson Coefficient (1.537) is the emblematic of errors' independency, correlation coefficient (0.458), and determination coefficient (0.210), and Sig (0.009) are illustrative of Sig relation between 30-day-efficiency and real earning management through administrative and sales expenses. Thus, we can conclude that the first hypothesis will be accepted with the approach of 30-day-information efficiency in 95% certitude level. Given the component t and P-value related to Beta coefficient, Amihud liquidity and firm size have the most effect in regression model.



### *60-day-information efficiency*

Given the table 1 results, Durbin Watson Coefficient (1.588) is the emblematic of errors' independency, correlation coefficient (0.246), and determination coefficient (0.07-), and Sig (0.470) are illustrative of Sig relation between 60-day-efficiency and real earning management through administrative and sales expenses. Thus, we can conclude that the first hypothesis will be accepted with the approach of 60-day-information efficiency in 95% certitude level. We can conclude that linear relation between 60-day-information efficiency and real earning management through sales and administrative expenses will not be confirmed.

### **7.3.2 The Second Hypothesis Test**

Hypothesis: there is a linear relation between information efficiency and real earning management through production expenses.

Now, 30-day and 60-day-information efficiency is used for the first hypothesis test. First hypothesis test results are shown in table 5.

Table 5: Second Hypothesis Test						
IE(60)			IE(30)			
0.246			0.481			Correlation Coefficient
0.061			0.231			Determination Coefficient
0.007-			0.176			Regulated Determination Coefficient
0.067			0.111			Estimation Standard Error
1.673			1.665			Durbin Watson Coefficient
0.902			4.206			F Statistic
0.469			0.005			Sig
P-Value	t	Beta	P-Value	T	Beta	
0.000	6.026	0.784	0.089	1.733	0.371	C
0.227	-1.221	-4.148	0.044	-2.0564	-1.149	ILLIQ
0.265	1.126	0.006	0.008	2.732	0.022	Size
0.782	0.278	0.030	0.042	2.076	0.034	Turn
0.462	0.740	0.026	0.200	1.297	0.076	Production

We analyze Table 5 results in two approaches of -and 60-day-information efficiency in information efficiency.

### *30-day-information efficiency*

Given the table 1 results, Durbin Watson Coefficient (1.665) is the emblematic of errors' independency, correlation coefficient (0.481), and determination coefficient (0.231), and Sig



(0.005) are illustrative of Sig relation between 30-day-efficiency and real earning management through administrative and sales expenses. Thus, we can conclude that the first hypothesis will be accepted with the approach of 30-day-information efficiency in 95% confidence level. Given the component t and P-value related to Beta coefficient, natural logarithm of share turnover and firm size has the most effect in regression model.

### *60-day-information efficiency*

Given the table 1 results, Durbin Watson Coefficient (1.673) is the emblematic of errors' independency, correlation coefficient (0.246), and determination coefficient (0.061), and Sig (0.469) are illustrative of Sig relation between 60-day-efficiency and real earning management through administrative and sales expenses. Thus, we can conclude that the first hypothesis will be accepted with the approach of 60-day-information efficiency in 95% confidence level. We can conclude that linear relation between 60-day-information efficiency and real earning management through sales and administrative expenses will not be confirmed.

### **7.3.3 The Third Hypothesis Test**

Hypothesis: there is a linear relation between information efficiency and real earning management through Long term assets.

Now, 30-day and 60-day-information efficiency is used for the first hypothesis test. First hypothesis test results are shown in table 6.

Table 5: Third Hypothesis Test						
IE(60)			IE(30)			
0.322			0.443			Correlation Coefficient
0.104			0.196			Determination Coefficient
0.290			0.129			Regulated Determination Coefficient
0.061			0.116			Estimation Standard Error
1.679			1.684			Durbin Watson Coefficient
1.389			2.932			F Statistic
0.252			0.030			Sig
P-Value	t	beta	P-Value	T	beta	
0.000	6.805	0.779	0.026	2.299	0.502	C
0.157	-1.436	-4.418	0.480	-2.025	-1.187	ILLIQ
0.154	1.499	0.007	0.045	2.063	0.018	Size
0.728	0.350	0.003	0.094	1.707	0.029	Turn
0.403	0.844	0.048	0.974	0.033	0.004	Asset



We analyze Table 6 results in two approaches of -and 60-day-information efficiency in information efficiency.

#### ***30-day-information efficiency***

Given the table 1 results, Durbin Watson Coefficient (1.684) is the emblematic of errors' independency, correlation coefficient (0.443), and determination coefficient (0.196), and Sig (0.030) are illustrative of Sig relation between 30-day-efficiency and real earning management through administrative and sales expenses. Thus, we can conclude that the first hypothesis will be accepted with the approach of 30-day-information efficiency in 95% certitude level. Given the component t and P-value related to Beta coefficient, natural logarithm of share turnover and firm size has the most effect in regression model.

#### ***60-day-information efficiency***

Given the table 1 results, Durbin Watson Coefficient (1.679) is the emblematic of errors' independency, correlation coefficient (0.322), and determination coefficient (0.104), and Sig (0.252) are illustrative of Sig relation between 60-day-efficiency and real earning management through administrative and sales expenses. Thus, we can conclude that the first hypothesis will be accepted with the approach of 60-day-information efficiency in 95% certitude level. We can conclude that linear relation between 60-day-information efficiency and real earning management through sales and long term assets will not be confirmed.

### **8. Research Findings**

Research results are emblematic of non-existent REM relation with 60-day-information efficiency in 3 different approaches of REM and the existence of relation with 30-day-efficiency, each of them are as follows:

There is a meaningful relation between REM through manipulating public, administrative, and sales expenses with 30-day-efficiency, Matsonaga and Park (2010) state that there is an expectation of negative relation existing among manipulating profit through real items and future performance of the companies, particularly, companies are suspected of manipulating the profit, because opportunist managers result in the increase of company's share price, job security and their own reward by taking advantage of accounting procedures or optional activities that these actions will finally result in other beneficiaries' loss.



There is not a meaningful relation between REM through manipulating public, administrative, and sales expenses with 60-day-efficiency, it can be claimed that the oscillation of share's price is high in 60-day duration. In real earning management through public and expenditure sales expenses whose implementation is mostly in management's authority goes up and down, companies can decrease reported expenses and increase the profit. Even in the courses when the profit of the course is more than the management's given profit (goal), the aforementioned expenses might increase (Rodichordri, 2006).

There is a meaningful relation between REM through manipulating information efficiency.

There is a meaningful relation between REM through manipulating production expenses with 60-day-efficiency. Given the hypothesis rejection, it can be stated that since in this method management has strived for too much production (more than requirement), and tries to show a decent image of the company's efficiency. When there is too much production, the stable burden expense will be descending, and every unit's expenses will drop (Moradzade and Adili, 1389). If share's price is not capable of production effect's complete reflection on company's future operational efficiency, negative relation between abnormal expense of the production and share's future output is expected. Given the obtained results from this hypothesis, and non-correlation existence between real earning management from production expenses with information efficiency of this claim will be rejected. There is a meaningful relation between REM through long term asset's sales with information efficiency.

There is not a meaningful relation between REM through long term asset's sales with information efficiency. Managers synchronize stable assets sales and their own investments in earning management through stable assets and long term assets with the purpose of achieving the given profit. Although the clerical value of restoration assets are not analyzed, it is less than their market's value (sale), manager can manipulate the profit of the current course (smoothening, additive earning management, and declining earning management) by assets sales and identifying the produced profit from the increase of assets value in the given course. Assets sales usually occurs with this method at the end of year (Jo, 2007), and since it is stated information efficiency, shares price is illustrative of all the available information in the market change as soon as new information enter market of the prices. Given the aforementioned issues, since assets sales occur at the end of the fiscal year, and share's price changes at the end of the fiscal year, and new information enters the capital market, it is thus logical to have no relation between information efficiency and sales manipulation of long term asset.





Total results show that managers in real earning management change the undertaking of the operation time, the way of resources' allocation, or the time of investment projects' implementation, management based on accrual items has no direct consequence on cash flow (Cohen and Zarobin, 2008). Real earning management has direct impact on company's cash flows, in this method, cash will be the victim of accrual profit, and its most important loss will be the annihilation of company value due to the decrease of the future cash flows. Accrual items management is not free from expenses. The discovery of accrual item's manipulation can bring forth the probability of the need for special analyses from auditors' side, and it can also result in financial punishments from legal entities (like Stock Exchange), the necessity for further presentations of profit and the analysis of the issue in legal courts. In real world, a phenomenon might be affected by factors and numerous variables. Some of these factors and variables are known for the researcher and can determine these factors to some extent on phenomena under analysis. However, there are some other factors that can affect phenomena under analysis that the researcher is not aware of them, or there is no possibility of determining their effect on variable under analysis. In this research the output of accepted companies' share in Tehran Stock Exchange is studied as dependent variable, a variable that can be changed under the effect of numerous factors. One of the important and primordial issues can justify non-relation between cash flows resulted from operational activities that real earning management has effect on and can be companies' share output and is the emblematic of oscillation in stock exchange market. In this direction, the effect of some stimulants of accepted companies' share in stock exchange such as gossip, political currents, pricing less than real share at the time of preliminary presentation to the public cannot be ignored. Besides, share's profit in cash also as one of the constitutive factors of share's output in different companies is under the numerous effects, such as management policies as regards profit division, liquidity condition, future development plans, the combination of shareholders and etc. These changes in cash profits' division of different companies can cause remarkable differences to share output.

Hypotheses results of real earning management, with 30-day-efficiency in direction with Ghani's research (2005), Miziko Jakobson (2007), Lee (2010), Rabii (1390), Akbare Javan (1390), Mirzaii (1392) are in contrast with Valizade Larijani's (1389).

Hypotheses results of real earning management, with 60-day-efficiency in direction with Kochaki's research (1373), Azaam Valizade (1389) whose research's results show that there is no meaningful relation between real earning management with future cash flows, and they are in contrast with Rakhshani's research (1384).



## 9. Conclusion

Given that discovery of real earning management by auditor is done with difficulty, it is suggested that Iran's official accounting society and accounting organization as active ones in accounting generation in country make the companies under consideration aware of the earning management's future consequences of real activities' manipulation by training their auditors. Stock exchange organization should also in some ways introduce the potential investors, and the companies that have recourse to real earning management to investors by informing them correctly in order that they attend investment or non-investment in such companies with awareness and in balance with their short term and long term goals.

## 10. References

1. Stein, J. C. (1989). Efficient capital markets, inefficient firms: A model of myopic corporate behavior. *The Quarterly Journal of Economics*, 104(4), 655-669
2. Fudenberg, D., & Tirole, J. (1995). A theory of income and dividend smoothing based on incumbency rents. *Journal of Political Economy*, 75-93.
3. WILD, J. J., & BERNSTEIN, L. i SUBRAMANYAM,(2001): Financial Statement Analysis.
4. Matsumoto, D. A. (2002). Management's incentives to avoid negative earnings surprises. *The Accounting Review*, 77(3), 483-514
5. Healy, P. M., & Wahlen, J. M. (1999). A review of the earnings management literature and its implications for standard setting. *Accounting horizons*, 13(4), 365-383.
6. Roychowdhury, S. (2006). Earnings management through real activities manipulation. *Journal of accounting and economics*, 42(3), 335-370
7. Schipper, K. (1989). Commentary on earnings management. *Accounting horizons*, 3(4), 91-102.
8. Cohen, D. & P. (2008). Zarowin. *Accrual-based and real earnings management activities around seasoned equity offerings*. Working paper, New York University
9. Gunny, K. (2005). "What are the consequences of real earnings management?". *Working paper. University of*
10. Roychowdhury, S.,(2006). Management of earnings through the manipulation of real activities that affect cash



11. Cohen, D. A., Dey, A., & Lys, T. Z. (2008). Real and accrual-based earnings management in the pre-and post-Sarbanes-Oxley periods. *The Accounting Review*, 83(3), 757-787.
12. Graham, J. R., Harvey, C. R., & Rajgopal, S. (2005). The economic implications of corporate financial reporting. *Journal of accounting and economics*, 40(1), 3-73.
13. Yu, F. F. (2008). Analyst coverage and earnings management. *Journal of Financial Economics*, 88(2), 245-271.
14. Thomas, J. K., and H. Zhang. \_2002\_. "Inventory changes and future returns". *Review of Accounting Studies* 7: 163-187
15. Ewert, R., & Wagenhofer, A. (2005). Economic effects of tightening accounting standards to restrict earnings management. *The Accounting Review*, 80(4), 1101-1124.
16. Mizik, N., & Jacobson, R. (2007). Earnings inflation through accruals and real activity manipulation: Its prevalence at the time of an SEO and the financial market consequences. Available at SSRN 1031006.
17. Chen, J., Yu, Z., Michel, F. C., Wittum, T., & Morrison, M. (2007). Development and application of real-time PCR assays for quantification of erm genes conferring resistance to macrolides-lincosamides-streptogramin B in livestock manure and manure management systems. *Applied and environmental microbiology*, 73(14), 4407-4416.
18. Ding, Y., Zhang, H., & Zhang, J. (2007). Private vs state ownership and earnings management: evidence from Chinese listed companies. *Corporate Governance: An International Review*, 15(2), 223-238.
19. Cohen, D. A., & Zarowin, P. (2010). Accrual-based and real earnings management activities around seasoned equity offerings. *Journal of Accounting and Economics*, 50(1), 2-19.
20. Asthana, S., Balsam, S., & Kim, S. (2009). The effect of Enron, Andersen, and Sarbanes-Oxley on the US market for audit services. *Accounting Research Journal*, 22(1), 4-26.
21. Anderson, M. C., Banker, R. D., & Janakiraman, S. N. (2003). Are selling, general, and administrative costs "sticky"? *Journal of Accounting Research*, 41(1), 47-63.
22. Cohen, D. A., Dey, A., & Lys, T. Z. (2008). Real and accrual-based earnings management in the pre-and post-Sarbanes-Oxley periods. *The Accounting Review*, 83(3),
23. Taylor, G. K., & Xu, R. Z. (2010). Consequences of real earnings management on subsequent operating performance. *Research in accounting regulation*, 22(2), 128-132.



24. Ge, W. and Kim, J. (2010). "Real Earnings Management and Cost of Debt". CAAA Annual Conferenc
25. Chapman, C. (2008). *The effects of real earnings management on the firm, its competitors and subsequent reporting periods*. Working paper, Northwestern University.
26. Zhao, Y., Chen, K. H., Zhang, Y., & Davis, M. (2012). Takeover protection and managerial myopia: Evidence from real earnings management. *Journal of Accounting and Public Policy*, 31(1), 109-135.