



The relationship between cash flow forecast and earnings management in firms

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ABSTRACT

The vast area of managers' authority and their different activities and utilizing realization and adjustment principles and using estimation, and forecasting are among factors that affect earnings' quality. It should be noticed that one of the most important information accessed by investors regarding different financial and economic decision makings is the financial report extracted from accounting systems of firms. Thus, we should consider that maybe one of the most important criteria in decision making by investors in stock market regarding purchase, sales, or holding stocks is their time perspective and their future predictions of profitability specifically the production of operating cash flows. Evidences show that cash flows prediction results in creating limitations in opportunistic earnings management. When management publishes cash flow forecasts, it commits to present a certain combination of income by using accruals in return to cash flows that leads to a reduction in degree of freedom in earnings management. There are several reasons why studying the effect of cash flows forecast is important for earnings management. Previous researches have shown that re-representing income imposes a great deal of expense on stockholders and managers who have caused this behavior with financial misbehaviors. Even if the companies increase their expectation level of management or decrease optional costs to encounter cash flow forecasts, these activities would be costly. Therefore, maybe it would not be an appropriate alternative to manipulate earnings' elements to achieve the goals. Accordingly, we expect that presenting cash flow forecast would limit firms' ability to achieve the target earnings. Thus, the present research has three hypotheses.

First hypothesis: by presenting cash flow forecast, earnings management will decrease through earnings' elements.

Second hypothesis: by presenting cash flow forecast, real activities' earnings management will increase.

Third hypothesis: by presenting cash flow forecast, expectations' management will increase towards target earnings.

The time period for this research was 8 years (from early 2004 to late 2011). Firms investigated in this research were 115 firms.

By analyzing the collected data, we dealt with studying and testing research hypotheses. Results of analyses showed that on the whole the first and second research hypotheses were approved and the third research hypothesis was rejected. Based on findings in this research it can be suggested to investors in Tehran Stock Exchange to rely on firms the present their cash flows and it can be shown that the earnings presented show firms' real earnings. The investors and creditors should pay more attention to firms' cash flow because it is one of managers' control tools to reduce earnings management. The investors should consider the factors and real signs of real earnings management and pay attention to their effects on cash flows as an index of firm's performance when they are making decisions to invest in firms. Regarding that real earnings' management discovering is done by auditors with much difficulty, it is suggested that Iranian Official Accountants' assembly and auditing organization, as active agents in accounting field in the country, should inform firms under investigations about future outcomes of earnings management through manipulating real activities, by training their own auditors. Stock Exchange Organization should introduce those firms that tend towards real earnings management by an appropriate informing format to investors and potential investors and let them invest or refuse investment consciously and based on their own short-term and long-term goals in such companies. Obligating firms enlisted in Stock Exchange to present cash flow forecasts results in increasing information transparency and increasing qualitative levels of researches.

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1. Introduction

Earning is one of the fundamental elements in financial statements and has always been noticed by users and it has

been used as a criterion to assess activity consistence, efficiency, and reviewing the structure of contracts of economic units' agents. In fact, earning is a tool to overcome measurement problems and to assess entities' performance.

Earning quality can be categorized into three groups: earning consistence, accruals' levels, and earnings that reflect economic transactions. On the one hand, earning is a commitment based on realization and income recognition principle and may contradict with real cash flows (Dichow & Dichev, 2002). On the other hand, the amount of firm's earning adjusted with the amount of created cash flows represents accruals' quality. Thus, the difference between accruals' earning and cash flow is used as a criterion to measure earnings' quality (Fakhkhari & Taghavi, 2009).

The literature review shows that the following methods have been introduced as suitable criteria in this field:

- 1- Relatedness with value based method,
- 2- information content based method,
- 3- forecasting capability based method

Research literature

During 19th and 20th centuries, many theories have emerged due to the nature of ownership or capital in business organizations. The first case made, was ownership theory. The main idea in this theory as it seems regarding the label deals with property ownership and the owner's asset. During years approaching the 20th century, corporate companies as dominant organizations replaced private and individual. The emergence of public corporate, isolation between ownership and management, and lack of obliging the control of owner on all activities were basic characteristics of this trend.

From the time when business unit theory isolated ownership and entity, the status of corporate companies started to change. Accordingly, management not only became responsible to stockholders and owners, but also it was deemed responsible to deal with all beneficiaries.

Based on this theory we can consider that firm's rights is equal to accumulated earnings and the earnings not paid are subtracted from it. Balance sheet equation is as follows, in case this theory is applied:

Total asses = owners' equity + liabilities

Cash theory:

One of the most powerful critical points against both theories of ownership and business unit was posed by William Joseph Water. Water expressed his consent of ownership theory only when ownership and participation is personal. However, ownership theory has some faults regarding corporate firms.

Water stated that continuation of a status is more profitable for a company than expending it. This includes presuppositions such as:

- a) The current pattern of economic organization which entails legal laws and social behaviors that remains without any changes.
- b) A great deal of operations reflected in financial statements with the same statements and methods that include production line and market's geographical area and common sales patterns that will continue in future.
- c) Economic and technologic factors related to the activity will continue their efforts to affect irreplaceable patterns.
- d) Skills and different forms of management's efforts will continue through future periods.

Operational perspective:

Cash theory has completely left identifying and appropriating items and deals with interaction in encountering problems and forthcoming issues in

accounting regarding operational perspectives. In cash theory accounting is neither ownership based nor it is firm based. The unit based on which records are maintained and reports are presented is defined as a group of assets. Regarding cash theory, cost is the reduction resulted from changing assets into services even if there is not any income in production. Regarding the pooled nature of services, costs can not be measured by considering an incidental perspective. Since it is impossible to trace all effects resulting from a certain incident, cost should be measured within a certain flow, not in a certain incident.

In cash theory, income is recognized by increasing a new asset. This increase can be in the form of cashes but it is not necessarily so.

Russian & et al (2005) considered more consistent earnings as more qualified. Penman & Zhang (2008) considered earnings capability amount in obtaining future incomes as earnings' quality. Regarding the limitations in reporting accounting earnings, earnings' quality is considered a better index by investors.

Welory & Jenkins (2006) posed qualitative characteristics of information in financial statements such as relatedness and reliability as earnings' quality based FASB frameworks (Kordler & Aarabi, 2010).

Earnings' quality assessment methods and criteria:

Earnings' quality assessment criteria are divided into four groups regarding financial accounting perspectives as follows:

- 1) Earnings quality structure based on time series of earning's characteristics
- 2) Also earnings quality structures based on relations between earning, accruals, and cash flows refer to items such as ratio of operating cash flows to total earnings, the ratio between accruals and cash flows and also estimation of unusual optional accruals.
- 3) Earnings quality structures resulting from qualitative characteristics of theoretical foundations of FASB in America.
- 4) Earnings quality structures resulting from administrative decisions including estimates and judgments as a reverse criterion of earnings quality and also spiteful judgments and estimates (Skipper & Vincent, 2003).

Earning smoothing:

Today investors and creditors react against earnings reported by management although it is based on Generally Accepted Accounting Principles (GAAP). However, the feedback on the part of investors and creditors affect choosing accounting methods by management.

Accounts' manipulation:

Researches carried out up to now show that earning manipulation in organizational level has had several reasons and causes. Top managers in an organization try to report earnings in higher levels. In lower organizational levels, middle managers are keen to show operational earnings better in some cases and within certain conditions.

As Hilly & Palipo (1990) have stated earnings management occurs when managers use their personal judgment in financial reporting and doing financial activities and change firm's performance or affect the results of contracts based on the reported accounting figures.

Hilly & Palipo (1990), Funderberg & Tayrol (1995), Dichow & Skinner (2000) have remarked about accessible earnings management for managers through sales growth, changes in organization and in transferring status, planning, and postponing research and development (R & D) costs, and holding costs. The manipulation of real activities as deviation from normal business activities has been defined as incentive of managers to deviate stockholders to reach certain financial reporting goals during operating period. Real activities' manipulation can reduce firm's value.

Ganny (2010) believed that earnings management is done by using the following activities:

- 1) Reducing cautious costs related with R & D
- 2) Reducing sales costs, general costs, and official costs
- 3) Sales of fixed assets
- 4) Reducing price or increasing long-term sales periods or more production in order to reduce cost

Earnings management:

One of the first definitions of earnings management has been proposed by Skipper (1989): "willful incentive in financial reporting process tending to gain personal advantages".

Another definition was posed by Hilly & Wallen (1999): "earnings management occurs when managers enforce judgments or adjustments in financial reports or in financial activities' structure that results in changes in financial reports in order to deviate stockholders in assessing economic performance of firms or effects in contraction results related to accounting figures".

Buildman (1973) believed that earning smoothing is a reduction or removal of earning fluctuations within earning margins that is normal for the firms. Moses (1987) has defined earning's smoothing as follows: "earning smoothing develops stock market of the firm indirectly and has a desirable effect on stock value and capital cost of the firm".

Hap Worth (1953) stated that earning smoothing is a logical and reasonable activity through which managers try to use certain means to smoothen earnings' accounting.

Some researchers such as Buildman (1973) have concluded in their studies that smoothing variables are not visible.

Watts & Zimmerman (1989) considered earning smoothing to affect bonds' value and stated that some evidences show that accounting earnings are good predictors for future cash flows and since based on CAPM theory, the value is equal to the recessed amount of future cash flows, the smoothened earnings can always affect firm's value.

Incentives and goals of earning smoothing:

Some researchers such as Moses (1987) have categorized these incentives into three groups:

- A- Incentives to increase stockholders' welfare
- B- Incentives to foster earnings' predictability
- C- Incentives to create welfare for management

Some others such as Hilly & Wallen (1999) have categorized these incentives as follows:

- 1- Incentives related to capital market
- 2- Incentives related to contracts based on accounting formulas
- 3- Incentives related to laws

We will describe about each of items above, respectively:

Incentives to increase stockholders' welfare:

Gordon (1964) predicts that: management smoothen earnings and increases stockholder's satisfaction and earning's consistence.

Hendrickson stated that : "although investors and creditors react to earnings reported by management and although earnings resides within frameworks of accounting methods, the feedback of investors and creditors' behavior affects the selection of accounting methods by management.

Hap Worth (1953) believed that earning smoothing incentives include the improvement of relationships between creditors, investors, and staffs and adjustment of business cycle by the help of smoothing processes.

Incentives to foster earnings' predictability:

Gordon (1964) stated that the reason to smoothen earnings by management is as follows: "earning smoothing at least leads to stockholders and management consider previous earnings to forecast future earnings".

Studies carried out by Barnia, Ronen & Sadden (1975) and Ronen & Sudden showed that there have been outside directors for earnings smoothing. They claimed that management tries earnings smoothing in order to increase investment capability to predict future cash flows. In fact managers transfer their certain expectations and outlooks about firm's cash flows through smoothened earnings to foster earnings' predictability through observing successive and connected figures for the stockholders.

Incentives to create welfare for management:

Recent studies regarding earnings smoothing have clearly emphasized on management's incentives to maximize their own welfare. Studies carried out state that managers have incentives to deviate figures and numbers for their own benefits and they hide some of information due to competition problems.

Hilly says: "Reward plans create an incentive in managers to choose reward value's excessive accounting methods. In rewarding plans considered for managers by management, management's rewards are determined based on these two factors (Holstein 1980; Hilly, 1985).

Capital market incentives:

In fact management has some information and is able to predict the effect of changes in financial policies of firms on stock price. Recent studies about earnings manipulation incentives have concentrated on unexpected accruals during periods through which the probability of incentives related to capital market has been high for capital to smoothen earnings.

Abrabanel & Lehavi (1998) used financial analysts' suggestions about stocks (purchase, holding, or sales) to predict earnings manipulation. They concluded that firms which receive purchase proposition may probably manipulate earnings more to supply the expectations of financial analysts with earnings. While, firms receive sales suggestions, probably they will report more unexpected negative accruals (income recessive).

Also Gul & Takar (2003) proposed supporting stockholders as one of capital market incentives. They believed that a sudden increase on earnings of a firm will cause a reduction in its stockholders and thus firm value will diminish. To compensate for this phenomenon, managers may smooth firm's earnings to avoid stockholders runaway and to support stockholders by doing so to maintain firm's value and to continue by using an excessive trend.

Truman & Titman (1988) claimed that: "managers smooth earnings through a reduction in financial costs to increase firm's value". They showed that managers may change stockholders' images of reduction of firms' economic

earnings by smoothing earnings. They believed that if bankruptcy risk probability and firm's value decreases, it leads to a firm's value reduction regard creditors' outlooks.

Legal incentives:

Legislatures and political sector have the ability to affect wealth transactions between different groups.

Collins (1995) found that nearly half of their sample banks had used 5 or more than 7 strategies for legal capital management (manipulation). Adil (1996) achieved some evidences regarding the frequency of earnings smoothing behavior based on regulatory incentives. He tested the information of 1294 insurer within a year during the time period between 1980 and 1990. Results showed that 1.5% of insurer sample had used financial trust insurance to avoid failure in regulatory tests.

Corporate governance and earnings management capability (earnings smoothing):

A manager may have many incentives for earnings management (earnings smoothing) but may not be able to carry it out. Many of these capabilities can be related to corporate governance structure. Fama (1980) and Fama & Jensen (1983) have discussed about the key role of board in controlling manager's activities. They both believe that board's efficiency will increase in the presence of an outside director. Jensen (1993) goes forwards further and states that Chief Executive Officer (CEO) should a member of internal board. Many researches carried out support this debate that the controllers or outside directors increase board's efficiency. Visbach (1988) found that: when board is controlled by outside observers or outside directors, the probability of resign of CEO following a weak performance, increases. Similarly, Shivdasani (1993) agreed with effective control of firms and believed that the probability of encountering difficult crises is lowered through controlling by observers or outside directors. Visbach (1988) proposed that board may control and supervise accounting method selection policies on the part of manager.

Pourheidari & et al (2009) comparatively studied information prediction capability of cash flow statements using a direct or an indirect method. They wanted to know: 1) does cash flows information presentation method resulting from operational activities affect its predictability meaningfully and importantly? 2) does gross information of receivables and cash payments have a higher predictability compared to net information? Due to the selected sample from among Tehran Stock Exchange, the research results showed that presenting cash flows information resulting from operational activities directly has had a better predictability compared with indirect method.

Khalifeh Soltani & et al (2010) studied the relationship between next year earnings' forecast error of management and current year's accruals. The reason to focus on management's earning' forecast instead of other disclosure methods is that earnings forecast is a reflection of managers' projects that is based on assessment of firm's business perspective and earnings' forecast would be quantitative and realizable, on the other hand.

MC Inis & Collins (2011) studied the effect of cash flows forecast on accruals' quality and criteria's achievement. According to them when analysts deal with earnings' forecast and operating cash flows, they surely prepare an

estimate of operational accruals as a whole. Based on their presuppositions, this increases transparency and thus the expected costs resulting from manipulation in accruals will increase because of earnings management. They concluded that in the presence of cash flow forecast, accruals' quality will increase and management will move towards other real mechanisms such as manipulation of real activities to achieve predetermined criteria.

Hudder & et al (2006) appropriated their research to investigate about the effect of information complexity and financial statements on cash forecasts. They believed that supplying cash flow statements by using operational activities and an indirect method is considered as a type of drawback because adjustments needed is presented somehow in a way that on the contrary to a conceptual definition framework, it is forward and absorbs assets, liabilities, and reservoirs. They suggested that tendency to return accruals that is obligatory in supplying cash flow statements in an indirect method, is an unnecessary set because it causes the increase of dispersion and errors in cash forecasts.

Pier De Shaw & et al (2006) studied on the relationship between firm's financial activities, analysts' forecasts, and stock return. They presented reliable and comprehensive amounts of firm's financial activities in their research and achieved a negative relationship between these amounts and stock return and future profitability. They believed that the statistical and economic importance of results gained have been greater that what were achieved in previous researches focusing on a certain set of firm's financial activities.

Lev & Li (2009) carried out a research about usefulness of accounting estimates to forecast income and cash. They stated that: "estimations and forecasts reside within most financial statements' items. These estimates potentially increase the relationship between financial information supplied by managers in order to transfer to the investors and creating a forward perspective for them regarding internal information (such as the amount of receivable cashes from customers from dubious claims). On the other hand, the quality of financial information is endangered regarding the followings: 1) increasing problems in supplying reliable forecasts in a chaotic atmosphere of current economics that is changing fast, and 2) inappropriate several uses of estimations by managers in order to manipulate financial information. The excessive spread of estimates during financial information, whether it leads to increasing their quality or not is again a part of structural debates in accounting.

Devil & et al (2013) studied about whether managers try to recognize earnings out of principles determined by GAAP to achieve the analysts' forecast earnings or not? Their research was based on the fact that managers deceitfully try to recognize earnings unlike GAAP in order to achieve financial analysts' expectations. This result is so strong that it creates some controls on other criteria's achievement means (such as cautious reservoirs, real earnings smoothing, and expectations' management. They also found that managers encounter more costs when they use earnings management by the help of reservoirs, due to balance sheet limitations and thus try to remove more costs from incomes not included within GAAP sources and refer to means

mentioned above. Finally they found that when investors with unexpected positive income encounter income out of GAAP, they try to diminish it. This shows that the market can recognize the opportunistic nature of these incomes to some extent.

Research method, research variables, and research hypotheses:

In the present research we have used a positive, quasi-experimental and post-incident method to approve variables.

Dependent variables:

1) Earnings management: to calculate the amount of earnings management we have used an optional accruals' absolute amount criterion calculated through Jones's adjusted pattern (Decho & et al, 1995). The lower amount of this figure means higher earning quality. The pattern used is as follows:

Figure (1):

Where,

TACC : total accruals in period t for firm i

TA : total assets' book value at the start of the period

Δsale : changes in net sales between the two periods of t and t-1

Δrec : changes in accounts receivable between the two periods of t and t-1

PPE : fixed assets and equipments

After pattern estimation, the residuals ($\epsilon_{i,t}$) were shown as optional accruals for each year-firm and were shown as |DA|.

ABOCOST = real earnings management through production costs calculated through regression:

Prod = cost of goods sold + the difference between inventories at the start and end of the period

SALES = net sales of the firm

ΔSALES = sales in year t – sales in year t-1

TA -1 = total assets' book value at the end of the period t-1

UE = the probability of achieving target earning that is calculated through the difference between forecast earnings and real earnings per each share

Independent variable:

SIZE = natural logarithm of firm size

ROA = return on assets

GSALES = growth of sales of firm

POSTCF = cash flow prediction in previous years

MTB = market value to book value ratio

LEV = firm's financial leverage that is calculated through the ratio of book value of liabilities and book value of firm's capital per each year

The present research has had three hypotheses as follows:

First hypothesis: by presenting cash flow forecast, earning management reduces through earning elements.

Second hypothesis: by presenting cash flow forecast, real activities' earning management increases.

Third hypothesis: by presenting cash flow forecast, expectation management increases towards target earnings.

The time period for this research was from 22nd March 2004 to March 21st 2011 (an eight year period).

Firms investigated in this research were 115.

Results of the descriptive statistics of research variables:

Regarding the closeness between mean and median in most variables and also many other statistics calculated from different variables, it can be concluded that all variables have had an appropriate distribution.

Figure 1: The descriptive statistic of variables

	mean	median	highest	lowest	standard deviation
UE	-0.013	0.000	0.722	-0.958	0.097
SIZE	13.245	13.114	18.438	9.778	1.380
ROA	0.118	0.099	0.652	-0.191	0.120
POSTCF	0.453	0.000	1.000	0.000	0.498
MTB	0.749	0.546	3.617	0.047	0.648
LEV	0.097	0.062	0.792	0.009	0.104
GSALES	0.147	0.138	1.384	-0.949	0.347
DA	0.160	0.127	1.305	0.000	0.148
ABOCOST	0.000	-0.007	0.881	-0.940	0.172

UE = operating cash flow

SIZE = natural logarithm of firm size

ROA = return on assets

GSALES = growth of sales of firm

POSTCF = cash flow prediction in previous years

MTB = market value to book value ratio

LEV = firm's financial leverage

DA = optional accruals

ABOCOST = real earning management through production costs

Correlation analysis:

As it can be seen in figure 2, correlation coefficient between independent variables of the research in patterns shows lack of much dependence among them.

Figure 2: Correlation coefficient between independent and dependent variables in research patterns*

	UE	SIZE	ROA	POSTCF	MTB	LEV	GSALES	DA	ABOCOST
UE	1.000	0.082	0.043	-0.025	-0.134	-0.013	-0.061	-0.007	0.018
SIZE		1.000	0.000	-0.028	-0.126	0.107	0.048	0.055	-0.014
ROA			1.000	0.177	0.627	-0.134	0.208	0.042	-0.355
POSTCF				1.000	0.194	-0.037	0.119	0.029	-0.066
MTB					1.000	-0.013	0.114	0.049	-0.402
LEV						1.000	0.000	0.031	-0.058
GSALES							1.000	0.026	-0.101

*Researcher's findings

As it can be seen in figure 3, the meaningfulness level for Kolomogorov-Smirnov statistic is higher than 5%. Thus,

null hypothesis is not rejected. This means that the data for dependent variables follow a normal distribution.

Figure 3: Results of Kolomogorov-Smirnov test

UE		ABOCOST		DA		year
error level	statistic	error level	statistic	error level	statistic	
0.134	1.429	0.082	1.503	0.09	1.642	83
0.879	0.588	0.057	1.370	0.069	1.299	84
0.500	0.828	0.09	1.451	0.059	1.452	85
0.976	0.479	0.145	1.145	0.109	1.206	86
0.494	0.832	0.176	1.102	0.058	1.461	87
0.929	0.544	0.374	0.914	0.055	1.479	88
0.823	0.629	0.055	1.364	0.123	1.180	89
0.335	0.944	0.091	1.243	0.521	1.512	90

Testing hypotheses:

First hypothesis: by presenting cash flow forecast, earning management reduces through earning elements.

Pattern (1):

$$DA_{it} = \alpha_1 + \beta_1 post_{it} + \beta_2 ROA_{it} + \beta_3 ROA_{it} + \beta_4 size_{it} + \beta_5 lev_{it} + \beta_6 MTB_{it} + \beta_7 gsales_{it} + \epsilon_{it}$$

Second hypothesis: by presenting cash flow forecast, real activities' earning management increases.

Pattern (2):

$$ABOCOST_{it} = \alpha_1 + \beta_2 post_{it} + \beta_3 ROA_{it} + \beta_4 size_{it} + \beta_5 lev_{it} + \beta_6 MTB_{it} + \beta_7 gsales_{it} + \epsilon_{it}$$

+

$$\beta_3 ROA + \beta_4 size + \beta_5 lev + \beta_6 MTB + \beta_7 gsales + \epsilon$$

Third hypothesis: by presenting cash flow forecast, expectation management increases towards target earnings.

Pattern (3):

$$UE_{it} = \alpha_1 + \beta_2 post_{it} + \beta_3 ROA_{it} + \beta_4 size_{it} + \beta_5 lev_{it} + \beta_6 MTB_{it} + \beta_7 gsales_{it} + \epsilon_{it}$$

+

$$\beta_3 ROA + \beta_4 size + \beta_5 lev + \beta_6 MTB + \beta_7 gsales + \epsilon$$

Results of F Limer recognition test to select from among usual pooled data patterns against panel data patterns with fixed effects are as shown in figure 4.

Figure 4: Results of F Limer recognition test

Hypothesis	Accepted method	Error level	Statistic
1	Pooled data method	0.999	0.077
2	Simple pooled data method	0.895	0.412
3	Simple pooled data method	0.1602	1.509

Regarding the results of F Limer recognition test, to estimate the pattern we have used a usual pooled data

pattern. Results of pattern estimation have been presented in figures 5 to 7.

Figure 5: Results of pattern estimation

Error level	t student statistic	coefficient	Variables
0.000	-9.179	-0.455	LEV
0.464	-0.733	-0.007	MTB
0.023	2.273	0.016	POSTCF
0.036	2.103	0.015	SIZE
0.002	-3.123	-0.116	ROA
0.086	-1.719	-0.160	C
0.324			R-Squared
0.319			Adjusted R-Squared
(0.000) 63.593			F stat. (P.Value)
1.858			D.W Stat.

Regarding the results in figure above in estimating patterns, and regarding F statistics and error level gained for it that equals 0.000, and is less than 0.01 error level, it can be stated in an assurance level of 99% that total pattern has had a well adjustment and has had a high meaningfulness degree. Also regarding that Durbin-Watson statistic gained for the pattern (1.858) has been between 1.5 and 2.5, we can claim that there has not been serial self-correlation between sentences in research pattern's residuals. Also since the

coefficient of cash flow forecast was 0.016 and the error level achieved was 0.023 and it has been less than 0.5% error level, this hypothesis is approved in an assurance level of 90%. It means that there has been a positive and meaningful relationship between cash flow forecast and earning management through constituents.

Testing second hypothesis:

Figure 6: Results of pattern estimation

Error level	t student statistic	Coefficient	Variables
0.860	0.176087	0.002255	GSALES
0.878	0.154172	0.009979	LEV
0.005	-2.79556	-0.03268	MTB
0.050	1.96408	0.018898	POSTCF
0.000	-5.08077	-0.29829	ROA
0.187	1.320188	0.015737	SIZE
0.320	-0.99548	-0.15864	C
0.577			R-Squared
0.51			Adjusted R-Squared
8.516 (0.000)			F stat. (P.Value)
1.704			D.W Stat.

Regarding the results in figure above in estimating patterns, and regarding F statistics and error level gained for it that equals 0.000, and is less than 0.01 error level, it can be stated in an assurance level of 99% that total pattern has had a well adjustment and has had a high meaningfulness degree. Also regarding that Durbin-Watson statistic gained for the pattern (1.704) has been between 1.5 and 2.5, we can claim that there has not been serial self-correlation between

sentences in research pattern's residuals. Also since the coefficient of cash flow forecast was 0.0188 and the error level achieved was 0.050 and it has been less than 10% error level, this hypothesis is approved in an assurance level of 90%. It means that there has been a positive and meaningful relationship between cash flow forecast and real activities' earning management.

Testing Third hypothesis:

Figure 7: Results of pattern estimation

Error level	t student statistic	Coefficient	Variables
0.002	3.065038	0.028341	SIZE
0.000	7.390363	0.33656	ROA
0.931	0.086511	0.000646	POSTCF
0.104	-1.627	-0.01475	MTB
0.456	-0.7461	-0.03746	LEV
0.011	-2.53629	-0.02519	GSALES
0.001	-3.31742	-0.41009	C
0.20			R-Squared
0.07			Adjusted R-Squared
1.599 (0.000)			F stat. (P.Value)
2.592			D.W Stat.

Regarding the results in figure above in estimating patterns, and regarding F statistics and error level gained for it that equals 0.000, and is less than 0.01 error level, it can be stated in an assurance level of 99% that total pattern has had a well adjustment and has had a high meaningfulness degree. Also regarding that Durbin-Watson statistic gained for the pattern (1.592) has been between 1.5 and 2.5, we can claim that there has not been serial self-correlation between sentences in research pattern's residuals. Also since the coefficient of cash flow forecast was 0.006 and the error level achieved was 0.931 and it has been more than 10% error level, this hypothesis is not approved in an assurance level of 90%. It means that there has not been a positive and

meaningful relationship between cash flow forecast and earning expectations' management.

Conclusion:

Earning management is a conscious behavior that is formed in order to reduce periodical fluctuations of earnings (Badri, 1999). Of course, it should be emphasized that this informed behavior is accompanied with a type of judgment and outlook enforcement that can change earning management assessment into an abstract and without a certain criterion format. Now it is very important that even those who evaluate earning management to be positive confess in a way that such a phenomenon can lead the users go astray in an inefficient market and since in Iran the efficiency of market is doubtful, it would seem to be very important. We

should notice that one of the most important accessible information for the investors regarding different economical and financial decision makings are financial reports extracted from firms' accounting system. Thus, it should be considered that maybe one of the most important decisions making criteria of investors in stock market regarding purchase, sales, or holding firms' stocks of time perspectives and their predictable future regarding profitability and even the production of operating cash flows. Evidences showed that cash flows' forecast causes the creation of limitations within opportunistic earning management. When management publishes cash flow forecast, he is committed to supply a certain composition of income by using accruals against cash flows and it results in a reduction in freedom rate in earning management.

Due to the results gained, it could be suggested to investors in Tehran Stock Exchange to present their cash flow in a way that we can rely on the earnings posed by these companies that shows the earning presented aiming at real earning of a firm.

The investors and creditors should pay more attention to cash flows when valuating firms because it is one of control means of managers to reduce earning management.

The investors should consider factors and evidences of real earning management and their effects on cash flows as an index of firm's performance in making decisions on investing in firms.

Because real earning management discovering is done with difficulty by auditors, it would be suggested to Official Accountants Association in Iran and Auditing organization, as those who are active in accounting field in our country, they should train their auditors to inform firms about future outcomes of earning management through manipulating real activities.

Tock Exchange Organization should inform potential investors by properly informing them about firms that tend to have real earning management. It should introduce them to investors to invest consciously and appropriately regarding short and long-term goals to invest r not to invest in such firms.

Obliging firms enlisted in bourse to present cash flow forecast will lead to increasing information transparency and enhancement of qualitative level of research.

It can be suggested to investors in Tehran Stock Exchange to consider qualitative earning characteristics in their decision making models and take them into consideration in their decision makings.

Regarding the results and achievements of this research it can be suggested that investors consider cash flow trend of companies in addition to studying the profitability status and return resulting from firm's stocks in assessing firms enlisted in Stock Exchange.

Investors, creditors, and analysts should pay attention to both types of manipulation in real activities and manipulation in optional accruals' items in studying whether management has referred to earning management or not and consider the point that managers use these two alternative earning management as substitutes.

References:

1. Beneish, M.D., Nichols, D.C., 2005. Earnings Quality and Future Returns, *The Relation between Accruals and*

the Profitability of Earnings Manipulation, SSRN.

2. Beyer, A., 2008, Financial Analysts' Forecast Revisions and Manager's Reporting Behavior, *Journal of Accounting and Economics* 46, 334–348.
3. Bhojraj, S., Hribar, P., Picconi, M., McInnis, J., 2009. Making sense of cents: an examination of firms that marginally miss or beat analyst forecasts. *Journal of Finance* 64, 2359–2386 October 2009.
4. Call, A., 2008. Analysts' Cash Flow Forecasts and the Predictive Ability and Pricing of Operating Cash Flows. Working paper, University of Georgia.
5. Call, A., Chen, S., Tong, Y., 2009. Are earnings forecasts accompanied by cash flow forecasts more accurate? *Review of Accounting Studies* 14, 358–391.
6. Cohen, D., Dey, A., Lys, T., 2008. Real and accrual-based earnings management in the pre- and post-Sarbanes Oxley periods. *The Accounting Review* 83 (3), 757–788.
7. Cohen, D., Zarowin, P., 2010. Accrual-based and real earnings management activities around seasoned equity offerings. *Journal of Accounting and Economics* 50 (1), 2–19.
8. quality of accruals and earnings: the role of accrual estimation errors. *The Accounting Review* 77 (Supplement), 35–59.
9. Doyle, J.T., Jennings, J., Soliman, M.T., 2013, Do managers define non GAAP earnings to meet or beet analyst forecasts?, *Journal of Accounting and Economics*.
10. Givoly, D., Hayn, C., Lehavy, R., 2009. The quality of analysts' cash flow forecasts. *The Accounting Review* 84 (6), 1877–1912.
11. Hribar, P., Nichols, C., 2007. The use of unsigned earnings quality measures in tests of earnings management. *Journal of Accounting Research* 45, 1017–1054.
12. Jensen, M., 2005. Agency costs of overvalued equity. *Financial Management* 34, 5–19.
13. Karpoff, J.M., Lee, D.S., Martin, G.S, 2008. The consequences to managers for cooking the books. *Journal of Financial Economics* 88, 193–215.
14. Lev, B., Li, S., 2009. The usefulness of accounting estimates for predicting cash flows and earnings.
15. Melendrez, K., Schwartz, W., Trombley, M., 2008. Cash flow and accrual surprises: persistence and return implications. *Journal of Accounting, Auditing, and Finance*, 23 (4), 573–592.
16. Roychowdury, S., 2006. Earnings management through real activities manipulation. *Journal of Accounting and Economics* 42, 335–370.
17. Strobel, G., 2012, Earnings manipulation and the cost of capital, SSRN
18. Wasley, C., Wu, J., 2006. Why do managers voluntarily issue cash flow forecasts? *Journal of Accounting Research* 44, 389–429.