

## The Effect of Information Asymmetry on Stock Return Predictability

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**Abstract:** The aim of this research is to investigate the information content of operating income and cash flow operating with stock return in information asymmetry situations in the accepted companies at Tehran stock exchange. This study was done according to data obtained from 70 companies during 2006-2010. This is an after event research. This research is calcified as the applicable research. And the hypothesis was examined, using liner multiple regression. The results of the examination reveal that operating income and cash flow operating contain the information content and they can explain the stock return and on the other hand, information content of operating income and cash flow operating are different from each other and information content of operating income is higher than cash flow operating. Also, the results indicated that information asymmetry effects on the income information content and cash flow operating and whatever the information asymmetry is higher, then information content of cash flow operating is increased.

**Keywords:** Cash flow operating, information asymmetry, information content, operating income, stock return

### INTRODUCTION

Information relevant to decision subject is among the factors effective on decision making. If the required information distributes asymmetrically between the people (Information communication is done unequally between people) can lead to different results. So, before the information is important for decision maker, information communication quality is evaluated accurately. When information asymmetry increases relevant to a firm shares, its natural value will be different from the investors' considered shares value in capital market. Finally, the firm actual shares will be different from share holders' expected value (Diamond and Verrecchia, 1991). Accounting income and cash flow are 2 competitor qualities for predicting the firm performance that are used by financial analyzers in order to evaluate the shares. These two main accounting information groups that is the data based on cash and obligation approach and to pursuit the informational context of above said numbers in explaining the firm performance indexes was subject of various researches. But, investigating the cash and obligation information quality and context in information asymmetry situations was fewer considered in the researches. One of the important questions in the accounting researches is accounting role in pricing the negotiable papers. The previous evidences indicate that the obligation income plays an important role in valuation process, because it deducts the scheduling problems and hidden asymmetry in cash numbers (Ball and Brown, 1986; Dechow, 1994). Anyway, obligation items usefulness is doubtful, because the managers are able to change them to adjust the stated income compatible with accounting accepted principles according to their desire. Is the manager

changes the income opportunely; this manager's power can distort the reported income (Watts and Zimmerman, 1986). On the other hand, the manager increases income information volume, allowing communicating the classified information (Healy and Palepu, 1993).

Aim of this research is to compare the relationship between "operation cash" and "operating income" with firms' "stock return". This research attempts to provide a standard to the investors for distributing the stock return in case of obtaining the above mentioned relations and its significant and comparing the information context of these variables.

### LITERATURE REVIEW

Some comprehensive researches have been done about stock return and its explanatory variables. The relationship between both variables of operating cash and obligation income with stock return investigated and concluded that there is not significant relationship between these two variables and stuck return. But, considering the special importance of subject in investors' decisions from one side and necessity for studying the additional relative information context of financial statements items from other side, the researches continued in this field. Most studies on additional information context analyze the accounting incomes as cash flow obtained from operation, flow obligation elements and non flow obligation elements and these studies also makes the stock return relevant with each element (Pfeiffer *et al.*, 1998).

Barlev and Livnat (1990) investigated the correlation between these ratios with firms' stock return through a research with aim of comparing the

information context of financial ratios extracted from cash flow statement with financial ratios of income statement and balance sheet, thus results of this research revealed that the financial ratios extracted from cash flow statement comparing with balance financial ratios and income statement is in more relationship with stock return.

Easton and Harris (1991) have studied the information context of obligation income via examining its relationship with stock exchange return and they found direct relationship between these variables. Belkaoui (1993) examined information rational and additional context of three economic value added, cash income and flow via investigating the relationship between these three variables with firms' stock return and concluded that all three variables are in significant relationship with stock return and they provide more added value and cash income obtained from additional and rational information context operation for investors. Barth *et al.* (1999) have investigated the predictability of next cash flow via income and current cash flow. Their aim of this study was to predict a model of relationship between next cash flow and past incomes and its former elements which were compiled according to Dechow *et al.* (1998). They investigated the obligation role to predict next cash flow. Their model indicated that every obligation section reflexes the different information about next cash flow and income hides this information totally. The previous studies which emphasized on the advanced markets such as U.S.A. or U.K. Investigated this subject that do obligation items add some information to cash flows for increase in income ability in return explanation and are optional and non optional obligation items different in values? Some researchers have stated that both cash and obligation flows have additional information context and are valued differently by the market (Bowen *et al.*, 1987; Wilson, 1986, 1987). On the other hand, other studies have found few evidences for present additional information context of each element toward other (Bernard and Stober, 1989).

Bowen *et al.* (1987) in a research investigated the additional information context of obligation and cash numbers. Results of this research reveal that cash flows information contains additional information context toward the income. Also, cash flows information contains additional information context toward information with flow income and capital obtained from operation and obligation flows information (income and flow capital from operation) contain additional information context toward cash flows separately and also jointly. Ashiq (1994) investigated

income additional information context, flow capital obtained from operation and cash flows. In this research, he confirmed income additional information context over the flow capital obtained from operation and cash flows. Also, in this examination, flow capital additional information context obtained from income and cash flows operation was confirmed. But, two cases were observed about cash additional information context obtained from operation over other factors: while under studied firms had few changes in cash obtained from operation, additional information context was seen toward others; and while the under studied firms had very changes in cash obtained from operation, additional information context was not seen toward others.

In-Mu *et al.* (2001) investigated the information context of operating cash flows, obligation income and items in China capital market. The results reveal the higher income information context than operating cash flows. Also, in this study, additional information context of optional obligation items was confirmed in front of non optional obligation items.

Lafond and Watts (2008) indicated that information asymmetry of the firm personnel (like managers) and investors out of firm lead to create conservativeness in financial statements. Conservativeness decreases the managers' motivations and ability to change the accounting numbers, so it decreases information asymmetry and damages. Whatever there is more information asymmetry between the firm personnel and investors out of firm, therefore request for conservativeness will be more. They used Pin Score's compound index for measuring the information asymmetry and they also used asymmetry time criterion developed by Watts to measure conservativeness.

## **RESEARCH HYPOTHESIS**

Considering the stated introduction and theoretical literature, this research is including four hypotheses as follows:

- H<sub>1</sub>:** There is a significant relationship between cash flows and stock return.
- H<sub>2</sub>:** There is a significant relationship between accounting income and stock return.
- H<sub>3</sub>:** Cash flows power and accounting income is different in stock return explanation.
- H<sub>4</sub>:** Relation of cash flow and accounting income is changed with stock return with changing information asymmetry factor.

## RESEARCH METHODOLOGY

This is an experimental like research in field of accounting proving researches. This research is based on the numbers and information and real numbers of stock market and firms' financial statements. Therefore, it is considered as the post event research. This is an operational research. In this research, library study method (contains: books, magazines, educational thesis and foreign papers) was used in order to study the subject literature and research background. In this research, the required information for examining the research hypothesis were collected from present data in Tehran stock exchange organization, financial statements of selected firms and data banks of Tadbirpardaz and Rahavarde novin (Iranian software) and required data storages were created and related accounts were performed, using extended sheets and finally the data was analyzed using statistical analyzing software (E views).

The statistical community of this research is the accepted firms in Tehran stock exchange. The active firms in stock exchange that their considered data is presented. The active firms in stock exchange are the firms which are working in stock exchange during a considered period (2006-2010). First, a list of the accepted firms in early 2006 is determined and then the sample firms were selected, determining their activity from shares exchanges in stock exchange and their data accessibility. Then, the research variables were calculated for each under studying years and samples. In the next stage, port observation were determined and studied using descriptive statistic and histogram algorithms in order to make sure relatively about normal variables. In addition, the relationship between the main variables and its significance is determined using correlation matrix and the research hypotheses are examined according to this basis. Linear multiple regression was used for examining the research hypothesis.

**Research model:** In this research, relationship between operating flow cash and operating income with firms' stock return and effect of information asymmetry on these relationships have been studied using compound and incorporating regression analysis as follows (Al-Najjar and Taylor, 2008).

Regression model 1 was used for examining the first to third hypothesis:

$$\text{Model (1): } R_{it} = \alpha_0 + \alpha_1 OI_{it} + \alpha_2 CFO_{it} + \alpha_3 \text{Beta}_{it-1} + \alpha_4 \text{Size}_{it-1} + \alpha_5 \text{MB}_{it-1} + \alpha_6 \text{EP}_{it-1} + \alpha_7 \text{Lev}_{it-1} + \alpha_8 \text{Dominated}_{it} + \epsilon$$

In model 1, all controlling variables except ownership structure have been entered with a delay period.

where,

$R_{it}$  is the achieved share return  $i$  in year  $t$  that was used as performance evaluation standard and is calculated as relation 1:

$$R_{it} = \frac{(P_{i,t} - P_{i,t-1} + D_{i,t})}{P_{i,t-1}} \quad \text{Relation (1)}$$

It is notable that necessary adjustment about effect of increase in capital and sources for performing it is considered in appropriate cases in order to calculating the firms' stock returns.

$OI_{it}$  is firm's operating income  $i$  in year  $t$  that it has been extracted from firms' income statements and became compatible according to mean of the firms' total properties.  $CFO_{it}$  is firm's operating cash flow  $i$  in year  $t$  that has been extracted from cash flow statement became compatible according to mean of the firms' total properties.

**Beta<sub>it</sub>:** Beta coefficient ( $\beta$ ) is systematic risk index, that is evaluated via market model regression slope coefficient for daily stock returns ( $R_{it}$ ) and daily market return ( $R_{mt}$ ) during a year period that it is begun from fourth month of under studying financial period. The market model formula as relation 2:

$$R_{it} = \alpha_{ii} + \beta_i R_{mt} + e_i \quad \text{Relation (2)}$$

where,

$\alpha_i$  &  $\beta_i$ : Parameters evaluation

$e_i$  : Error sentence

$R_i$  : Daily real stuck return

$R_{m}$  : Market return rate (price index and cash return)

In this study, beta coefficient has been used in order to control firm's risk.

**Size<sub>it-1</sub>:** Natural logarithm of  $i$  firm's total properties in year  $t-1$  that has been entered in the model in order to control firm's size.

**MB<sub>it-1</sub>:** Market value ratio toward office value of each  $i$  firm's share<sup>1</sup> in  $t-1$  that has been entered to the model in order to evaluation levels.

**EP<sub>it-1</sub>:** Income ratio toward market value (price) of  $i$  firm's each share in  $t-1$  that has been entered to the model in order to control evaluation level.

**Lev<sub>it-1</sub>:** Firm's financial axel in year  $t-1$  that has been entered to the model in order to control financial lever and it is obtained via dividing total debts by total properties. The financial lever is considered for calculating the differences between financial providing

methods and also is considered as capital structure criterion.

Dominated<sub>it</sub> is an ownership structure criterion that has been entered to the model in order to control differences in the firms' ownership structure. In this model, this variable is determined artificially or implicitly in this way that if firm free flow stocks is less than 50%, number 1 and if free flow shares is equal to 50%, number 0 is allocated to it. It is stated that ownership structures often effect on market performance of firm's stock (stock return) (Holderness, 2003).

Significance test of difference between these 2 variations in regression model and has been used for examining the H<sub>3</sub> about comparison of operating income information context with operating cash flow and Wald examination has been used for (α<sub>1</sub> and α<sub>2</sub> model). This test leads to establish some restrictions on the model coefficients.

For example, are both variables coefficients equal to each other or not? This test statistic is obtained by the Eq. (1):

$$\text{Wald}(X_i) = \left(\frac{\beta_i}{\text{S.E}}\right)^2 \quad (1)$$

$$H_0: \alpha_1 = \alpha_2$$

$$H_1: \alpha_1 \neq \alpha_2$$

For examining H<sub>4</sub> is effect of information asymmetry on the information context of operating cash flow and operating income, three implicit variables were considered as information asymmetry agent (firm size according to the market value of stocks owners' salaries, unclear properties ratio toward total properties

and ownership structure) and then according to each variables, the under studying sample was divided into 2 groups and regression model (1) was evaluated for each group and the results were compared with each other (Rapp, 2010).

Whatever the firm size is bigger according to market value of stockholders' salaries, unclear properties ratio is more than total properties and free flow stuck percentage is higher, so information asymmetry is more in that group. For examining H<sub>4</sub>, model 1 is evaluated for under studying sample which was divided into 2 groups based on the firm size, according to market value of stockholders' salaries, unclear properties ration toward total properties and ownership structure and the results are compared with each other.

### EXPERIMENTAL RESULTS

In this research, relationship between operating cash flow and operating income with firms' stock return and effect of information asymmetry on these relationships are studied as follows, using compound and assimilating regression analysis.

The below regression model (2) was used for hypothesis 1-3:

$$\text{Model (2): } R_{it} = \alpha_0 + \alpha_1 OI_{it} + \alpha_2 CFO_{it} + \alpha_3 \text{Beta}_{it-1} + \alpha_4 \text{Size}_{it-1} + \alpha_5 \text{MB}_{it-1} + \alpha_6 \text{EP}_{it-1} + \alpha_7 \text{Lev}_{it-1} + \alpha_8 \text{Dominated}_{it} + \epsilon$$

In model 2, all controlling variable have been entered to the model with a delay period except ownership structure in order to solve the endogenous problems.

Table 1: Regression (relationship between income and operating cash flow with stock return)

	Coefficients	Criterion error	t-statistic	Significance level
α <sub>0</sub>	160.2028	58.05645	2.759432	0.007400
α <sub>1</sub>	67.62548	54.31078	2.245158	0.037200
α <sub>2</sub>	160.2028	43.13904	2.473010	0.017700
α <sub>3</sub>	67.62548	2.037385	1.169072	0.246300
α <sub>4</sub>	20.40521	3.387245	-2.517190	0.014100
α <sub>5</sub>	2.381849	1.709402	0.412467	0.681200
α <sub>6</sub>	-8.526337	48.77729	-2.453692	0.016600
α <sub>7</sub>	0.705071	48.11690	2.228389	0.039000
α <sub>8</sub>	-119.6844	23.85721	2.694348	0.008970
Determination coefficient	10.989370	Dependent variable mean		20.83137
Balanced determination coefficient	16.565220	Dependent variable standard deviation		48.42880
Regression criterion error	0.134754	Akaiik information statistic		10.55898
Remained total expresses	45.047800	Showartz statistic		10.82696
Likelihood logarithm	-413.35910	F statistic		2.537937
Durbin-Watson statistic	2.216591	t-statistic significance level		0.017229

Dependent variable: Return; Method: Panel with minimum roots; Sample: 1385-1389; Data of each section: 70; Panel total data: 350; R<sub>it</sub> = α<sub>0</sub> + α<sub>1</sub>OI<sub>it</sub> + α<sub>2</sub>CFO<sub>it</sub> + α<sub>3</sub>Beta<sub>it-1</sub> + α<sub>4</sub>Size<sub>it-1</sub> + α<sub>5</sub>MB<sub>it-1</sub> + α<sub>6</sub>EP<sub>it-1</sub> + α<sub>7</sub>Lev<sub>it-1</sub> + α<sub>8</sub>Dominated<sub>it</sub> + ε

When the independent variable is in correlation with error expresses in regression model, the endogenous problem will be created. In dead, this problem is created at the result of mistakes in the measurement, self correlation, omitted variables and sampling mistakes. This problem makes the regression coefficients diagonal.

Evaluation results of this model have been shown in Table 1. The results from regression are reliable when the evaluated regression is totally significant. Variance analysis (F examination) is used for regression significance. Since significance level (0.0172) is less than 0.05 according to data of the Table 1. So, it can be said that model evaluation proper index, that is F statistic is significant and finally the regression is significant.

Durbin Watson's statistic was used for data independence examination. Totally, Durbin Watson's examination examines the serial correlation between regression remainders. In this model, this statistic value is equal to 2.216 approximately that indicate there isn't any correlation between the sequential remainders.

Determination coefficient indicates variability rate in the dependent variables that can be explained by regression. Considering Table 1, determination coefficient is 0.222 and balanced determination coefficient is 0.135. determination coefficient indicates that about 22.2% of dependent variables changes (stock return) can be explained as performance evaluation standard by the dependent variables (operating income, operating cash flow, beta coefficient, firm size, market value ratio toward office value of each stock, income ratio toward each stock price, financial lever and ownership structure). As it is said here, beta variables coefficient, firm size, value ratio toward office value of each stock, income ratio toward each stock price, financial lever and ownership structure have been entered to the model as controlling variables. Therefore, independent variables predict 22.2% of stock returns changes.

According to Table 1, considering the regression coefficient, there is a positive and significant relationship between operating income, operating cash flow and stock return and there is a negative and significant relationship between firm size variables and income ratio toward each stock price and stock return. So,  $H_1$  (there is a significant relationship between cash flow and stock return.) and  $H_2$  (there is significant relationship between accounting income and stock return) was confirmed.

In this stage, significance test of differences between both coefficients in regression model 1, ( $a_1$  and  $a_2$ ) the Wald examination was used for examining  $H_3$  about comparing the operating income information context with operating cash flow. This examination leads to establish restrictions on the model coefficients. For example, are the coefficients of both variables

Table 2: Results of wald examination (generator examination)

Wald examination			
Equation $a_1 = a_2$			
Test statistic	value	Freedom degree	Significance level
F statistic	111.5465	(1, 71)	0.0045
Kay-Do Hypothesis zero summery	111.5465	1	0.0009
Value		Criterion error (standard error)	
$a_1 - a_2$	47.220	83.35011	
Restrictions in coefficients ate linear			

equal each other or not? This examination statistic is obtained by Eq. (2):

$$Wald(X_i) = \left( \frac{\beta_1}{S.E} \right)^2 \quad (2)$$

$$H_0: \alpha_1 = \alpha_2$$

$$H_1: \alpha_1 \neq \alpha_2$$

As Table 2 is seen, null hypnotizes was rejected in significance level 5% ( considering both F statistic and  $X^2$ ) and finally there is a significant difference between operating income and operating cash flow and operating income coefficient is more than operating cash flow. Therefore, we can say that operating income power and operating cash flow power is different and higher in stock return explanation and  $H_3$  is confirmed. For examining  $H_4$  that is information asymmetry effectiveness on information context of operating cash flow and operating income, three implicit variables were considered as information asymmetry agent (firm size based on market value of stockholders' salaries, unclear properties ratio to total properties and ownership structure) and then the under studying sample was divided into two groups according to each variables and regression model 1 was evaluated for each group and the results are compared with each other. Whatever firm size is bigger based on market value of stockholders' salaries, unclear properties ratio to total properties is higher and free flow stock percentage is higher, so information asymmetry is higher in that group.

First, the under studying firms were divided into 2 groups according to market value of stockholders' salaries which indicates firm size (the firms which market value of their stockholders' salaries is more than mean market value of stockholders' salaries in total samples and the firms which market value of their stockholders' salaries is less that mean market value of stockholders' salaries in total samples). Then, model 1 has been evaluated for both groups and its results have been presented in Table 3 and 4.

In all statistic tables, F must be less than 0.05 in order to say that model evaluation proper index that is significant F statistic and finally the regressions are

significant. Operating income coefficient is not significant between the firms which market value of their stockholders' salaries is higher than mean of market value of stockholders' salaries in total sample and the operating cash flow coefficient is 26.741. Operating cash flow coefficient is not significant between the firms which market value of their stockholders' salaries is less than mean of market value of stockholders' salaries in total sample and the operating income coefficient is 22.914.

According to the results from Table 3 and 4, whatever information asymmetry is higher (firm size is higher), explanation power of operating cash flow is increased.

In the next stage, the under studied firms were divided into 2 groups according to the unclear properties ratio to total properties (the firms which their unclear properties ratio to their total properties is higher than mean of this ration for all samples and the firms which unclear properties ratio to their total properties is less than mean of this ration for all samples). Then model 1 has been evaluated for both groups and the results have been presented in Table 5 and 6.

Considering the above tables, Operating income coefficient is not significant between the firms which their unclear property ratio is higher than mean of all

samples and the operating cash flow coefficient is 36.347. Operating cash flow coefficient is not significant between the firms which their unclear property ratio is less than mean of this ratio for total sample and the operating income coefficient is 116.935. According to the results from Table 5 and 6, whatever information asymmetry is higher (unclear property ratio to total properties is higher), explanation power of operating cash flow is increased. Finally, the under studied firms were divided into two groups according to ownership structure (free flow stocks) (the firms in which free flow stocks percentage in higher than mean of free flow stocks for total sample and the firms in which free flow stocks percentage is less than mean of free flow stocks percentage for total sample).

Then model 1 was evaluated for both groups and the results have been presented in Table 7 and 8. Operating income coefficient is not significant between the firms which their free flow stocks percentage is higher than mean of free flow stocks percentage for total sample and the operating cash flow coefficient is 85.565. Operating cash flow coefficient is not significant between the firms which their free flow stocks percentage is less than mean free flow stocks percentage for total sample and the operating income coefficient is 83.895.

Table 3: Regression (relationship between operating income and operating cash flow with stock return in the firms which their market value of stockholders' salaries is higher than mean market value of stockholders' s salaries in total sample)

Significance level	t-statistic	Criterion error	Coefficients	
0.08540	2.998722	63.35491	63.27393	a <sub>1</sub>
0.46800	2.655609	40.78822	26.74110	a <sub>2</sub>
11.09400	Mean of dependent variable		0.318529	Determination coefficient

Dependent variable: Return; Method: Panel with minimum roots;  $R_{it} = \alpha_0 + \alpha_1 OI_{it} + \alpha_2 CFO_{it} + \alpha_3 Beta_{it-1} + \alpha_4 Size_{it-1} + \alpha_5 MB_{it-1} + \alpha_6 EP_{it-1} + \alpha_7 Lev_{it-1} + \epsilon$

Table 4: Regression (relationship between operating income and operating cash flow with stock return in the firms which their market value of stockholders' salaries is less than mean of market value of stockholders' s salaries in total sample)

Significance level	t-statistic	Criterion error	Coefficients	
0.0348	2.221972	103.22900	22.913950	a <sub>1</sub>
0.2485	1.103217	93.25926	9.925938	a <sub>2</sub>
30.56875	Mean of dependent variable		0.318529	Determination coefficient

Dependent variable: Return; Method: Panel with minimum roots;  $R_{it} = \alpha_0 + \alpha_1 OI_{it} + \alpha_2 CFO_{it} + \alpha_3 Beta_{it-1} + \alpha_4 Size_{it-1} + \alpha_5 MB_{it-1} + \alpha_6 EP_{it-1} + \alpha_7 Lev_{it-1} + \alpha_8 Dominated_{it} + \epsilon$

Table 5: Regression (relationship between operating income and operating cash flow with stock return in the firms which their unclear properties ratio to their total properties is higher than mean of this ratio for all samples)

Significance level	t-statistic	Criterion error	Coefficients	
0.9470	0.067042	85.55462	5.735791	a <sub>1</sub>
0.0261	2.491975	73.87929	36.34674	a <sub>2</sub>
21.27508	Mean of dependent variable		0.361430	Determination coefficient

Dependent variable: Return; Method: Panel with minimum roots;  $R_{it} = \alpha_0 + \alpha_1 OI_{it} + \alpha_2 CFO_{it} + \alpha_3 Beta_{it-1} + \alpha_4 Size_{it-1} + \alpha_5 MB_{it-1} + \alpha_6 EP_{it-1} + \alpha_7 Lev_{it-1} + \epsilon$

Table 6: Regression (relationship between operating income and operating cash flow with stock return in the firms which their unclear properties ratio to their total properties is less than mean of this ratio for all samples)

Significance level	t-statistic	Criterion error	Coefficients	
0.02080	2.511332	77.37213	116.9350	a <sub>1</sub>
0.05560	1.880111	64.55911	56.81918	a <sub>2</sub>
20.38647	Mean of dependent variable		0.187708	Determination coefficient

Dependent variable: Return; Method: Panel with minimum roots;  $R_{it} = \alpha_0 + \alpha_1 OI_{it} + \alpha_2 CFO_{it} + \alpha_3 Beta_{it-1} + \alpha_4 Size_{it-1} + \alpha_5 MB_{it-1} + \alpha_6 EP_{it-1} + \alpha_7 Lev_{it-1} + \alpha_8 Dominated_{it} + \epsilon$

Table 7: Regression (relationship between operating income and operating cash flow with stock return in the firms in which free flow tocks percentage ratio to their is higher than mean of free flow stocks for all samples)

Significance level	t statistic	Criterion error	Coefficients	
0.6279	0.489371	66.7812	116.9350	a <sub>1</sub>
0.0336	2.214202	70.47038	85.56526	a <sub>2</sub>
23.89547	Mean of dependent variable		0.284912	Determination coefficient

Dependent variable: Return; Method: Panel with minimum roots;  $R_{it} = \alpha_0 + \alpha_1 OI_{it} + \alpha_2 CFO_{it} + \alpha_3 Beta_{it-1} + \alpha_4 Size_{it-1} + \alpha_5 MB_{it-1} + \alpha_6 EP_{it-1} + \alpha_7 Lev_{it-1} + \varepsilon$

Table 8: Regression (relationship between operating income and operating cash flow with stock return in the firms in which free flow tocks percentage ratio to their is less than mean of free flow stocks for all samples)

Significance level	t-statistic	Criterion error	Coefficients	
0.0143	2.882184	95.09915	83.89498	a <sub>1</sub>
0.2960	1.062368	72.59249	77.11994	a <sub>2</sub>
17.76608	Mean of dependent variable		0.230181	Determination coefficient

Dependent variable: Return; Method: Panel with minimum roots;  $R_{it} = \alpha_0 + \alpha_1 OI_{it} + \alpha_2 CFO_{it} + \alpha_3 Beta_{it-1} + \alpha_4 Size_{it-1} + \alpha_5 MB_{it-1} + \alpha_6 EP_{it-1} + \alpha_7 Lev_{it-1} + \varepsilon$

According to the results from Table 7 and 8, whatever information asymmetry is higher (whatever free flow stocks percentage is higher in other word the ownership concentration is higher), explanation power of operating cash flow is increased.

Results from Table 3 to 8 indicated that information asymmetry effects on information context of operating income and cash flow and in case of increase in information asymmetry, explanation power and information context of operating income to operating cash flow is decreased and on the contrary, in case of decrease in information asymmetry, explanation power or information context of operating income is increased toward operating cash flow. So, it can be concluded that hypothesis 4 was confirmed (with changing in information asymmetry factor, relation of cash flows and accounting income is changed with stock return).

## DISCUSSION AND CONCLUSION

In this research, information context of operating income and operating cash flow and effect of information asymmetry on the information context of these both variables was investigated in the accepted firms in Tehran stock exchange in 5 year period of 2006 to 2010 according to the information of 70 firms. The results of correlations revealed that there is a positive correlation between operating income and operating cash flow and this correlation between operating income and return is more than correlation between operating cash flow and return. The results indicated that H<sub>1</sub> (there is significant relationship between cash flow and stocks return) and H<sub>2</sub> (there is a significant relationship between accounting income and stock return) were confirmed. These results were like results from Belkaoui (1993), In-Mu *et al.* (2001), Bowen *et al.* (1987), Dechow (1994) and Wilson (1986, 1987). The significance examination of difference between both variables coefficients in regression model and Wald examination was used in order to compare information context of operating income with operating cash flow. The results of this examination indicated that

there is a significant deference between operating income regression coefficients and operating cash flow and operating income coefficient is higher than operating cash flow. Therefore, we can say that operating income power is different and more in explaining the stocks return and hypothesis 3 was confirmed. Results of this section are agreed with results of Belkaoui (1993) and In-Mu *et al.* (2001).

Research results of Bowen *et al.* (1987), Dechow (1994) and Wilson (1986, 1987) indicated that income has additional information context toward operating cash flow. In this research, 3 implicit variables were considered as an agent of information asymmetry (firm size according to market value of stockholders' salaries, unclear properties ratio to total properties and ownership structure) in order to study the effect of information asymmetry on information context of operating cash flow and operating income and then the under studying sample was divided into two groups and regression model (1) was evaluated for each group and the results were compared with each other. The results revealed that operating income coefficient is not significant between the firms which market value of their stockholders' salaries is higher than mean of market value of stockholders' salaries in total sample and the operating cash flow coefficient is 26.741. Operating cash flow coefficient is not significant between the firms which market value of their stockholders' salaries is less than mean of market value of stockholders' salaries in total sample and the operating income coefficient is 22.914. Therefore, whatever information asymmetry is higher (whatever market value of stockholders' salary is higher or in other word the firm size is bigger); explanation power of operating cash flow is increased.

In the next stage, the under studying firms were divided into two groups like previous procedure according to unclear properties ratio and the results indicated that operating income coefficient is not significant between the firms which their unclear property ratio is higher than mean of total sample and the operating cash flow coefficient is 36.347. Operating cash flow coefficient is not significant between the

firms which their unclear property ratio is less than mean of this ratio for total sample and the operating income coefficient is 116.935. Therefore, whatever information asymmetry is higher (whatever unclear properties ratio is higher than total properties), explanation power of operating cash flow is increased. In the final stage, the under studying firms were divided into 2 groups like previous stage according to ownership structure (free flow stocks). The results indicated that operating income coefficient is not significant between the firms which their free flow stocks percentage is higher than mean of free flow stocks percentage for total sample and the operating cash flow coefficient is 85.565. Operating cash flow coefficient is not significant between the firms which their free flow stocks percentage is less than mean free flow stocks percentage for total sample and the operating income coefficient is 83.895. So, whatever information asymmetry is higher (whatever free flow stocks percentage is higher in other word ownership concentration is more on them), explanation power of operating cash flow is increased. Information asymmetry effects on information context of operating income and cash flow and in case of increase in information asymmetry, explanation power and information context of operating income to operating cash flow is decreased and on the contrary, in case of decrease in information asymmetry, explanation power or information context of operating income is increased toward operating cash flow. So, it can be concluded that hypothesis 4 was confirmed (with changing in information asymmetry factor, relation of cash flows and accounting income is changed with stock return). This result is agreed with results of Wang (2002).

## REFERENCES

- Al-Najjar, B. and P. Taylor, 2008. The relationship between capital structure and ownership structure. *Manage. Financ.*, 34(12): 919-933.
- Ashiq, A.L., 1994. The incremental information content of earning, working capital from operating and cash flow. *J. Account. Res.*, 32(1): 19-34.
- Ball, R. and P. Brown, 1986. An empirical evaluation of accounting income numbers. *J. Account. Res.*, 6(2): 159-178.
- Barlev, B. and J. Livnat, 1990. The information content of funds statement ratios. *J. Account. Audit. Financ.*, 5(3): 411-431.
- Barth, M.E., W.H. Beaver, J.R.M. Hand and W.R. Landsman, 1999. Accruals, cash flows and equity values. *Rev. Account. Stud.*, 4(3-4): 205-229.
- Belkaoui, A., 1993. The information content of value added earning and cash flow. *Int. J. Account.*, 28(2): 140-146.
- Bernard, L.V. and T.L. Stober, 1989. The nature and amount of information in cash flows and accruals. *Account. Rev.*, 64(4): 625-652.
- Bowen, R.M., D. Burgstahler and L.A. Daley, 1987. The incremental information content of accruals versus cash flows. *Account. Rev.*, 62(4): 723-747.
- Dechow, P.M. 1994. Accounting earnings and cash flows as measures of firm performance: The role of accounting accruals. *J. Account. Econ.*, 18(1): 3-42.
- Dechow, P.M., S.P. Kotharib and R.L. Watts, 1998. The relation between earning and cash flows. *J. Account. Econ.*, 25(2): 133-168.
- Diamond, D.W. and R.E. Verrecchia, 1991. Disclosure, liquidity and the cost of equity capital. *J. Financ.*, 46(4): 1325-1359.
- Easton, P.D. and T.S. Harris, 1991. Earnings as an explanatory variable for returns. *J. Account. Res.*, 29(1): 19-36.
- Healy, P.M. and K.G. Palepu, 1993. The effect of firms' financial disclosure policies on stock prices. *Account. Horiz.*, 7: 1-11.
- Holderness, C.G., 2003. A survey of blockholders and corporate control: Federal Reserve Bank of New York. *Econ. Policy Rev.*, 9(1): 51-64.
- In-Mu, H., Q. Daqing and W. Woody, 2001. The nature of information in accruals and cash flows in an emerging capital market: The case of China. *Int. J. Account.*, 36(4): 391-406.
- Lafond, R. and R.L. Watts, 2008. The information role of conservatism. *Account. Rev.*, 83(2): 447-478.
- Pfeiffer, R.J., P.T. Elgers Jr, M.H. Lo and L.L. Rees, 1998. Additional evidence on the incremental information content of cash flow and accruals: The impact of errors in measuring market expectations. *Account. Rev.*, 73(3): 373-385.
- Rapp, M.S., 2010. Information asymmetries and the value relevance of cash flow and accounting figures-empirical analysis and implication for managerial accounting. *J. Probl. Perspect. Manage.*, 8(2): 64-75.
- Wang, Y.J., 2002. Liquidity management, operating performance and corporate value: Evidence from Japan and Taiwan. *J. Multinat. Finan. Manage.*, 12(2): 159-169.
- Watts, R.L. and J.L. Zimmerman, 1986. *Positive Accounting Theory*. Englewood Cliffs, Prentice-Hall Inc., New Jersey, pp: 12.
- Wilson, G.P., 1986. The relative information content of accruals and cash flows: Combined evidence at the earnings announcement and annual report release date. *J. Account. Res.*, 24: 165-203.
- Wilson, G.P., 1987. The incremental information content of the accrual and funds components of earnings after controlling earnings. *Account. Rev.*, 62(2): 293-322.