An Investigation on Relationship between Accruals Anomaly and Predictive Power of Investment with Stock Returns in Companies Listed in Tehran Stock Exchange

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ABSTRACT

The purpose of this research is The Investigation of Value Relevance of earnings and Accruals anomaly in Predictive Power of Stock returns in Companies Listed in Tehran Stock Exchange. incorrect understanding of investors from prediction power of earnings components particularly accruals. is called abnormal accruals or accruals anomaly. We used classification of accruals from Resutek and Lewellen (2012). In this research, sample is 102 firms listed in Tehran stock exchange that are analyzed for the period of 1382-1390 (2003-2011) by using of the Panel Data system and Ordinary Least Square Regressions (OLS) Model and Chow tests. The results show that Accounting Earnings have Value Relevance. In other hands, Accounting Earnings is significantly associated with the stock returns. Therefore, net operating assets (total accruals) and net working capital are significantly associated with the stock returns. But long-term net operating assets and non-transaction accruals are not significantly associated with the stock returns.

KEYWORDS: Value Relevance, Accruals anomaly, net working capital, Stock Returns

INTRODUCTION

Accruals are considered as the difference between accounting earning and operating cash flows. Accrual basis as the final model of current accounting has many problems despite having various benefits. The most important problem is the lack of objective figures namely earning figure compared to the cash basis.

Due to some reasons as judgment, the estimation of the non-objectivity is the inseparable component of accrual basis. The perception of the accrual features is one of the most important aims of financial accounting.

By considering the importance of accounting earning and the role of cash flows as one of the important resources of each economical enterprise, accounting earning is classified into cash and accrual components. Accruals are defined as the difference between the accounting earning and operating cash flows. Richardson et al. (2005) presented comprehensive definition of accruals. According to them, accruals are the difference of accounting earning (being determined based on accounting standards) and cash earning (operating cash flow). This definition is including accruals of all the balance sheets.

After Healy (1985), most of the researchers including Sloan (1996), Xie (2001) and Thomas and Zhang (2001) defined accruals the change of non-cash working-capital accruals minus depreciation. But this definition considered non-current operating accruals a form of growth. The key difference between the working capital accruals and non-current operating accruals is such that the future benefits of non-current operating accruals required much time for the study.

The accruals are classified into two groups:
1- Accruals of the growth of the activity of the companies.
2- Accruals of the efficiency of operating assets management of the companies.

A part of accruals are increased due to the growth of the activity of the companies. Jones (1991) considered this component of accruals normal. But the recent result of Chan et al., (2006) showed that low persistence of accrual component of the earning is dedicated to the voluntary accruals. For example, it is assumed that the inventories are increased irrelevant with the sale. This increase is due to the reduction of the efficiency part of the accruals because the increases of inventories have two reasons: First the value of the inventories is overvalued and it showed the temporary distortion of accounting. Second the management of the inventories don't have the required efficiency.

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Dechow (1994) showed that accrual earning showed the company performance better than cash earning but Sloan (1996) showed that in prediction model of the profitability of the companies, persistence of accrual component is lower than its cash component.

The present study showed that when the investors misunderstand the accruals and show abnormal reactions of carelessness, the future stock returns will be different from what was expected.

The present study attempted to answer the question whether the stock holders use the earning component information to predict future stock returns? In other words, earning information content and its various components are evaluated. Then, a new classification of accruals presented by Resutek and Lewellen (2012) are evaluated. The following question is also responded: Based on the new classification of investment on long-term accruals, non-transaction accruals and non-cash net working capital, how the investors can predict stock returns and whether the investors show illogical reaction to the changes of accruals? The results of this study can help the financial investors and decision makers for decision making and encouraging them to use the counseling of financial analyzers.

The general aim of the present study is the evaluation of the relation between accrual anomaly and investment on accruals with stock returns in the companies listed in TSE. Accrual anomaly is occurred when the accrual components are not directly associated with stock returns despite the investors' expectation.

THEORETICAL BASICS AND REVIEW OF LITERATURE

Based on the efficient market hypothesis (efficient market theory) and financial reporting aims, as the published information in the form of financial statements affect the stock price rapidly and it can said that accounting figures in these reports have information content helping the investors in estimating the price, time and returns uncertainty. But since 1980s, the reasonability of the investors was seriously criticized (Hagen Robert, 2007). Thus, in wrong reaction of the market, it can be raised when the investors misunderstand the accruals and show abnormal reactions and it causes that future stock returns is different from what they expected.

Accounting earning and the related components (accruals and cash components) are the information being considered during the decision making. The stock holders consider total revenue and earnings and to predict the future earning, apply the current and previous year earnings figures. Sloan (1996) shows that accruals, measured as working-capital accruals minus depreciation, are strongly negatively related to subsequent stock returns after controlling for a firm's size and other characteristics.

Fairfield et al. (2003) focused on the relations between accruals and investment. They show that changes in working capital and long-term NOA have similar predictive power for firm performance accrual anomaly reflects a general 'growth effect' arising from the fact that investors do not understand diminishing marginal returns from investment because the investors consider earnings as a general figure. This explanation is associated to the negative relation between foreign economy measures and future stock returns that is documented in the economical texts.

In some cases, the people reaction is not reasonable and it leads into the anomaly including the increase or reduction of the prices. The overreaction or under reaction is occurred when people determine the stock price higher or lower than its value based on new information (Haqiqat and Bakhtiari, 2011). Incorrect understanding of the investors of persistence of earnings component namely accruals is called accrual anomaly. It can be said that information content of the accrual components takes the attention of the theorists to the quality of accruals as an index of earnings quality. In other words, accrual components can present some information on the company performance but the market reacts slowly to the information. Thus, the accrual components can be considered as improvement or loss index.

Resutek and Lewellen (2012) in his study presented a new classification of accruals (e.g. non-transaction accruals, investment on long-term accruals and non-cash net working capital). They evaluated the power of accrual anomaly in prediction of stock returns. The results showed that accounting earnings is consisting of information content and is directly associated with stock returns. But accrual components such as non-transaction accruals and investment on long-term accruals and net working capital had inverse association with stock returns despite the expectation of the investors. Some investments as research and development expenditures (long-term investment) are spent instead of being turned into capital while some accruals show some changes in the value of investment assets being done in the previous years. These items are non-transaction accruals. Because they are not dependent upon the current investment transactions and they include some values as the costs of the reduction of the value of inventories and depreciation costs and declination of nominal price of the stock that is not considered by the investors.

Based on the above explanations in the present study, it is answered to the question that how the investors can predict the stock returns based on accrual anomaly and whether the investors can show non-rational reaction to the accrual changes?

REVIEW OF LITERATURE

Various studies in Iran and abroad are applied.

Resutek and Lewellen (2012) in their study evaluated the prediction power of accrual anomaly in stock returns and a new classification of accruals (e.g. non-cash net working capital, investment on long-term accruals and non-transaction accruals) was presented. The results showed that total accruals and three components of accruals despite the accounting earnings and expectation and prediction of the investors had significantly negative relation with stock returns and this is not considered by the investors. Because the higher the earnings accruals, the less efficient will be the prediction of stock returns by earnings.

Shi Zhang (2012) in his study "on whether the earnings fixation hypothesis can explain the accrual anomaly originally documented in Sloan (1996).

The analytical model yields the prediction that if investors fixate on reported earnings, the effectiveness of the accrual strategy will increase in the responsiveness of the stock price to earnings and the differential persistence of cash flows relative to accruals. Their empirical evidence confirms our prediction and lends support to the earnings fixation hypothesis.

Richard Sloan (2011) in a study evaluated the nature of the accrual and cash components information and the size of the information reflected in stock price. The results of the study showed that the performance of the earnings accrual components had low persistence compared to earnings cash components. The results showed that stock prices couldn't reflect the information and information content of the components were different systematically.

In addition, in the companies with high (low) level of earnings accrual components, positive (negative) returns anomaly of the stock is observed and this returns anomaly is fixated during the declaration of annual earnings. It can be said that the stability of the earnings performance depends upon the relative importance of the earnings cash and accrual components.

Hirshelifer et al. (2009) evaluated the relation between accruals, cash flows and stock returns. The results of their study showed that despite the previous studies, accruals were strong and positive predictor for stock returns but cash flows were negative predictors.

Cooper et al., (2008) in their study evaluated the relation between investment and future stock returns and observed a negative relation between investment and future stock returns. They stated that the investors described the assets development as a positive sign in the company and predicted future profitability of the company optimistic and the reduction of assets was negative sign in the company and future profitability of the company is predicted as pessimistic.

Zhang (2007) in his study evaluated two comparative hypotheses for accrual anomaly:1- The role of investment (growth) of accruals, 2- the role of persistence of accruals. He found that accrual anomaly is increased uniformly by the investment information in accruals and the evidences showed that the analyses were not consistent with the persistence of accruals.

Chan et al., (2006) evaluated the relationship of accruals and future stock returns. One interpretation of the results is that the companies with low earnings quality after the earnings reporting, will have low returns. Another interpretation is that the investors find about the low earnings quality of the companies and adjust the stock price.

Francis et al. (2005) by the evaluation of pricing the quality of accruals as the information risk of the earnings showed that the lower the quality of the accruals, the higher the liabilities and its capital costs of the company. This issue shows the effect of the quality of accruals in people decision making.

Fairfield et al. (2003) in their study evaluated the relation between accruals and company growth. They found that accrual anomaly is a special case of anomaly growth and due to the extensive conservative accounting methods or declining final returns, new investment is created. The studies done in this regard created a negative relation between accruals and future stock returns of the company.

Dechow and Dichev (2002) evaluated the role of accruals on better measurement of the company's performance a time series. As the accruals require the assumptions and prediction of future cash flows. They found that the features of each company as absolute value of the accruals, operating cycle, standard deviation, accrual cash flows, earnings and company size are considered as some instruments to evaluate the earnings quality.

Dastgir and Rastegar (2011) evaluated the relation between earnings quality, accruals size and stock returns with accrual quality in TSE. The results of their study showed that earnings quality had direct association with the quality of accruals and by reduction of the quality of accruals and increasing the size of accruals, the stock returns is increased.

Haqiqat and Bakhtiari (2009) in a study evaluated the increasing information content of accrual anomaly compared to operating cash flows. The result of the study showed the presence of accrual anomaly in total accruals approach. The results of the study showed that in total accruals approach, operating cash flows don't reduce the

explanatory power of accrual anomaly in future stock returns. The researches in this study showed the increasing information content of operating cash flows and accrual anomaly on each other in total accruals approach. While in working capital accrual approach, the results showed that operating cash flows and accrual anomaly didn't have increasing information content.

Modares and Abaszade (2008) in a study evaluated the effect of prediction power of accruals and cash flows on the quality of predicted earnings. The results of the study showed that :1) By previous earnings, the future earnings with the minimum error is predicted. The entrance of one of the earnings component (cash or accruals) into the models, improves the prediction. 2) The performance of the earnings is positively associated with the ability to predict the earnings components and their continuance. In other words, earnings components with high persistence and quality can predict the earnings well.

Arab Mazar Yazdi et al., (2006) evaluated the increasing and relative content of the earnings information, operating cash flows and accruals in Iran capital market via the investigation of stock ret urns with earnings and its components. The results showed that earnings had more information content compared to operating cash flows. The results emphasized on the presence of increasing information content of earnings compared to operating cash flows.

Study hypotheses

Normally, the stock holders consider net earnings and the related information in their evaluation and they don't know the relation of earnings accruals and the related components with stock price and its return. Resutek and Lewellen (2012) in their study showed that some of accrual components have significant negative relation with stock returns despite the accounting earnings. This is the issue that stock holders don't consider it because the higher the accruals in earnings, the lower the efficiency of accounting earnings to predict stock returns.

Based on the theoretical basics and review of literature, the following five hypotheses are formulated as:

First hypothesis: Accounting earnings in prediction of stock returns has information content.

Second hypothesis: The total accruals had information content in prediction of stock ret urns.

Third hypothesis: The net working capital changes had information content in prediction of stock return.

Fourth hypothesis: Investment in long-term accruals had information content in prediction of stock return.

Fifth hypothesis: Non-transaction accruals had information content in prediction of stock returns.

Study variables

In this study, independent, dependent and control variables were applied. Table (1) shows the variables and their abbreviations.

Table 1: Dependent and independent variables

Variable	Abbreviation	Variable
Dependent	R_t	Stock returns
Independent	NI_{t-1}	Previous year net earnings
Independent	$dNOA_{t-1}$	Net changes of operating assets (total accruals) of previous year
Independent	dWC_{t-1}	The net working capital changes of the previous year
Independent	$INVACC_{t-1}$	Investment on long-term accruals of the previous year
Independent	$NTACC_{t-1}$	Non-transaction accruals of the previous year
Control	$LEVERAGE_t$	Financial leverage ratio
Control	$SIZE_t$	Company size

The measurement method of each of the variables and hypotheses test model are as following:

Dependent variable: stock returns

Stock returns is applied as dependent variable in regression models is measured by Equation (1).

$$R_{i,t} = \frac{P_1 + D - P_0}{P_0} \qquad (1)$$

Where

$R_{i,t}$: Real returns of ith share in year t, P1: The share price at the end of year t, P0: Share price at the beginning of year t and D: Cash stock earnings**.**

Independent variables

In the present study five independent variables are applied being measured as following:

Net earnings of the previous year (NI_{t-1})

Net earnings of the previous year are applied as the independent variable of the study and is extracted of the profit and loss statement of the member companies of the member.

Net changes of operating assets (total accruals) of the previous year ($dNOA_{t-1}$)
This variable is applied as the second independent variable. Total accruals variable is also called net changes of operating assets and it is measured by equation (2,3) (Resutek and Lewellen (2012)):

NOA = Total assets – Cash – Non debt liabilities (2)
Total accrual= change in net operating assests=dNOA (3)
Where

NOA $_{it}$: (Net operating assets); **Total assets $_{it}$**: Total assets; **Cash $_{it}$**: Total cash, **Non-debt liabilities $_{it}$**: total non debt liabilities.

After measuring the net operating assets, to compute the changes of this variable, the data of the present year were compared with the previous year of each company and the changes of this variable in the present and previous year are applied as independent variable.

On the other hand, the changes of net operating assets (total accruals) are classified into three components of accruals. This classification is presented by Resutek and Lewellen (2012):

$$\Delta NOA_{it} = \Delta WC + invACC + NTAcc \qquad (4)$$

Here, the changes of total accruals are classified into three sections:
$NTACC_t$: Non-transaction accruals, **$INVACC_t$:** Investment on long-term accruals and **dWC_t:** Changes of net working capital.

Each of the following components is tested as one of the independent variables in regression models.

The changes of net working capital of the previous year (dWC_t)
This variable is applied as the third independent variable of the study and is measured by equation (5) (Resutek and Lewellen (2012):

WC = Current assets – Cash – Non Debt Current Liabilities (5)

Investment on long-term accruals of the previous year ($INVACC_{t-1}$)
This variable is applied as the fourth independent variable and is measured by equation (6) (Resutek and Lewellen (2012):

InvAcc = dLTNOA – NTACC (6)
Investment on long-term accruals= the changes of net operating assets- non-transaction accruals
The long-term net operating asset is computed from the following equation:
LTNOA = NOA – WC **(7)**

Non-transaction accruals of the previous year ($NTACC_{t-1}$)
This variable is considered as the fifth independent variable and is measured by equation (1) (Resutek and Lewellen (2012):
NTACC = Depreciation costs+ tax+ net reduction of capital value+ loss on sale of the fixed assets+ unexpected items (8)

Control variables
In this study, two control variables are applied being measured as following:

Leverage ratio ($LEVERAGE_t$)
Leverage ratio is applied as the first control variable of the study is measured as the following. Control variables can affect the dependent variable but there is not necessity to study them. This ratio shows the power of paying the debts by assets.

$$LEVER_{i,t} = \frac{TL_{it}}{TA_{it}} \qquad (9)$$

Where
TL_{it} is the total debts and TA_{it} is the total assets.

Company size (SIZE t)

The second control variable of the study is company size. The company size is calculated as the natural logarithm of the total assets of the end of the period (DeAngelo, 1986) and the higher the total assets of the company, the more extensive the company activities.

$$SIZE_{it} = log(A_{it})$$
(10)

Study models

After the collection of the required data, their classification and definition and calculation of the study variables, the following regression model was applied by relying on the combinational approach of the data. The first model was applied to test the first and second hypotheses and the second model was used to test the third, fourth and fifth hypotheses.

Model (1)

$$Y_{IT} = \beta_0 + \beta_1 NI_{T-1} + \beta_2 dNOA_{t-1} + \beta_3 LEVERAGE_{it} + \beta_4 SIZE_{it} + \varepsilon_{it}$$

Model (2)

$$Y_{IT} = \beta_0 + \beta_1 NI_{T-1} + \beta_2 dWC_{t-1} + \beta_3 + INVACC_{T-1} + \beta_4 NTACC_{T-1} + \beta_5 LEVERAGE_{it} + \beta_6 SIZE_{it} + \varepsilon_{it}$$

In these models,

Y_{it}: Current year stock returns, Ni_{t-1}: Previous year net earnings, $dNOA_{t-1}$: Total accruals of the previous year, Dwc_{t-1} :The changes of working capital of the previous year, $INVACC_{t-1}$: Investment on long-term accruals of the previous year, NTACC: Non-transaction accruals of the previous year.

STUDY METHOD

The present study in terms of aim was applied-descriptive and based on nature and method, it was correlation. This study is semi-experimental based on the design and retrospective study.

The data collection was done in two stages. In the first stage, to formulate the theoretical basics of the study, library method (referring to the thesis, Persian [*]and English articles via the sites) and in the second stage, for data collection, the financial statements presented to TSE [†] and other information resources as Tadbirpardaz and Rahavard Novin software were applied. Thus, the data collection method was field study. For data analysis and hypotheses test, Eviews6 software was used. In the present study, based on the type of data and statistical data analysis, pooled data econometric method (total period of the study) was used to estimate the study models and the study of hypotheses test.

The study sample

The study population in the present study was all the companies being listed in TSE during 1390-1382 and maintained their membership. The total number of the companies listed in TSE was more than 426 companies. The sample selection method was systematic elimination method. Among all the companies listed, the companies not included in the study were excluded and all the remaining companies were selected for the test.

- The company should have all the information for all the financial statements such as balance sheet, loss and profit statement and cash flow.
- Their fiscal year end to 29th Esfand.
- The companies should be active in TSE during the period.
- They shouldn't change fiscal year during the study period.

By the evaluation of the companies listed in TSE and applying the above conditions, 102 companies (918 year-company) were selected to estimate the models and study hypotheses.

STUDY RESULTS

Descriptive statistics

For better understanding of the study population and familiarity with the study variables, before the data analysis, the data should be described. The descriptive statistics of dependent and independent variables in the study models are shown in Table (2). This table shows the general view of the study data. Regarding the net earnings of the previous year (NI_{t-1}) it is observed that its mean is 0.13 and it shows that most of the data of these variables are

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close to this value. The median of this variable was 0.13 and it is shown that about half of the data of this variable are more than this value and other half is less than this value. The closeness of these two statistics showed the normality of the data of this variable. The standard deviation was 0.26 and it showed the fluctuation of the data around the mean as 26%.

Table (2): The results of descriptive statistics of study variables

Variables	Index	Mean	Median	Max	Min	SD
Net earnings of the previous year	NI_{t-1}	0.1362	0.1339	0.6236	-0.2428	0.2638
The changes of net operating assets of the previous year (total accruals)	$dNOA_{t-1}$	0.2034	0.2165	4.4236	-2.3698	0.4336
The changes of the net working capital of the previous year	dWC_{t-1}	0.3689	0.3785	3.6899	-1.4463	0.3128
Investment on long-term accruals of the previous year	$INVACC_{t-1}$	0.0869	0.1084	2.6453	-1.3548	1.2144
Non-transaction accruals of the previous year	$NTACC_{t-1}$	0.1248	0.1223	1.3645	-0.6639	0.2144
Financial leverage ratio	$LEVERAGE_t$	0.5672	0.4804	0.9832	0.0606	0.2188
Company size	$SIZE_t$	5.6839	5.6679	7.9568	4.3866	1.4883

Source: Researcher calculations

Chow test results

In this study, the numbers of the observations were 102 observations (company) including 9 years. In pooled data analysis, 918 observations (year-company) were applied. To study the type of test in various stages and pooled data, F lemer test (Chow) and Hausman tests were applied. In Chow test, if the chow statistics of the test is significant, null hypothesis is rejected and fixed effect model (panel data) is supported and if the statistics is not significant, pooled data is used to test the hypotheses. In Hausman test, if the Hausman statistics is significant, null hypothesis is rejected and fixed effects model is supported. If the statistics is not significant, the random effects model is used to test the hypotheses. The results of Chow test are shown in Table (3):

As is shown in the table, the results of Chow test in model (1), (2) supported the null hypothesis of this test regarding the similarity of the interception in all the periods and H1 is rejected. Thus, the pooled data estimation method is a good factor to estimate the study models. Based on this method, all the data are combined with each other and are estimated by Ordinary Least Square Regressions (OLS)

Table (3): The results of Chow test

Tested model	Chow test	*p-value*	Result
Model (1)	2.2893	0.3364	*Pooled data*
Model (2)	2.1248	0.4216	*Pooled data*

Source: The researcher calculations

Correlation coefficients

Correlation study is the statistical instrument by which the degree associated from one variable to another linearly is measured. The Pearson correlation equation between the study variables is presented in Table (4). The correlation coefficient between the independent variables in a model shouldn't be high. Because correlation between the independent variables distort the regression results.

Table 4- Pearson correlation coefficients between the study variables

	NI_{t-1}	$dNOA_{t-1}$	dWC_{t-1}	$INVACC_{t-1}$	$NTACC_{t-1}$	$LEVER_t$
NI_{t-1}	1					
$dNOA_{t-1}$	0.24	1				
dWC_{t-1}	0. 16	0.26	1			
$INVACC_{t-1}$	-0.09	0.33	0.23	1		
$NTACC_{t-1}$	0.18	0.13	0.14	0.14	1	
$LEVER_t$	-0.04	0.19	-0.09	0.00	-0.08	1
$SIZE_t$	0.21	0.02	0.01	0.12	0.12	0.24

Source: Researcher calculations* the colored parts show the significance of correlation at level 1% or 5%.

Results of significance test of the study models

The first model of the study is used to evaluate and test the first and second hypotheses and the second model is used to test the third to fifth hypotheses. Before the estimation of the model of the hypothesis test, it is required to test the hypotheses of regression model, the hypotheses are including 1- Normality of the model residuals, 2- Homogeneity of the residuals variance, 3- The non-linearity of explanatory variables, 4- non-self correlation of the error components.

The results of normality test of the residuals of the first model of the study are observed in Table (5).

Table (5)- The results of normality test of the residuals

Explanation		First model RESIDUAL	Second model RESIDUAL
Jarque-Bera		2.4369	0.9688
	p-value statistics	0.1208	0.4126

Source: Researcher calculations

As is shown in Table (5), the normality statistics of the residuals and their significance rejected H1 hypothesis and supporting H0. In other words, the residuals of the estimation of regression models didn't have non-normal distribution. The results of variance homogeneity of the model residuals are shown in Table (6). As is shown, the statistics of variance homogeneity test and their significance level supported the null hypothesis of this test regarding the homogeneity of the variances. In other words, the residuals of models estimation had fixed variance.

Table 6- The results of homogeneity test of the variance of regression model residuals

White test	First model		Second model	
	4.3246	F statistics	F statistics	3.6892
	0.1645	p-value	p-value	0.1766
	105.2438	Lagrange coefficient statistics	Lagrange coefficient statistics	118.7489
	0.0826	p-value	p-value	0.0829
The coefficient of determination	0.3461		0.3829	
Number of observations	918		918	

Source: Researcher calculations

Regarding the non-linearity of the independent variables, it can be said that based on the correlation coefficients presented in Table (4), for the correlation of explanatory variables of the study model, small values are achieved. Low coefficients showed the lack of linearity between the explanatory variables of the first model (Aflatuni and Nikbakht, 2010).

To study the self-correlation of the residuals of the regression model, Durbin –Watson test is applied. The results of simultaneous test were achieved by the estimation of regression model in Eviews software. Its value for the non-self correlation is 2. If this value is ranging 1.5 to 2.5, self-correlaiton is rejected in model error. Durbin-Watson statistics test of the first and second regression being shown in Tables (7), (8) are 1.8984, 2.2218, respectively. Based on Durbin-Watson statistics, self-correlation is rejected in error values.

After the study of the four hypotheses of regression model and desirability of the model, the results of the model estimation are evaluated. The results of significance test of model (1) and the study of the coefficients of pooled data during 1382-1390 are shown in Table (7):

As is shown in the table, F statistics with confidence level 99% is significant. Because F statistics is related to model estimation and its significance level (P-value) is 6.4269, 0.000, respectively. It can be said that the model was significant totally and independent and control variables had explanatory power of model dependent variable. In addition, adjusted coefficient of determination of the test was 0.3219. This figure showed that about 32% of the changes of the dependent variable, stock returns of the current year was due to the changes of independent and control variables in the model and 68% were due to its changes of other factors.

First hypothesis of the study evaluated the information content of the accounting earnings in prediction of stock returns (the relation between net earnings of the previous year and stock returns). In this hypothesis, dependent variable was stock returns and independent variable was net accounting earnings. If the accounting earnings had significant relation with stock returns in the study model, it can be said that accounting earnings had information content.

Based on the results of Table (7), t-statistics of independent variable NI_{t-1} and its significance level (P-value) were 6.8867, 0.0152. As the error level in this study was 0.05, in the independent variable, it can be said that previous year net earnings with confidence interval 95% had positive relation with stock returns of the current year. Thus, the first hypothesis is supported.

Table 7- The results of the first and second hypotheses model

Explanation	Parameter	Coefficient	p-value	t-static
Fixed coefficient	β_0	0.0854	0.0017	4.5946
NI_{t-1}	β_1	1.1138	0.0152	6.8767
$dNOA_{t-1}$	β_2	-0.4426	0.0001	-4.4326
$LEVERAGE_t$	β_3	-0.0228	0.0000	-3.3249
$SIZE_t$	β_4	0.1729	0.0062	5.0928
Adjusted R^2	0.3219			
F-static	6.4269			
F (p-value)	0.0000			
D-W	1.8984			
Number of observations	918			

Source: Researcher calculations

Second hypothesis of the study evaluated the information content of the total accruals in prediction of stock returns (the relation between total accruals of the previous year and stock returns).

Based on the results of Table (7), t-statistics of independent variable NOA_{t-1} and its significance level (p-value) is -4.4326, 0.0001, respectively. As the error level for this variable was less than 0.01, regarding the independent variable, it can be said that total accruals of the previous year with confidence interval 99% had negative significant relation with current year stock returns. Thus, the second hypothesis was supported. The results of significance test of model (2) and the evaluation of the coefficients of variables by pooled data during 1382-1390 is shown in Table 8. As is shown in the table, F statistics with confidence interval 99% is significant. It can be said that this model was significant generally and independent and control variables in the model can explain the dependent variable of the model. The adjusted determination coefficient of the test was 0.2847.

Third hypothesis of the study investigated the information content of the changes of working capital in prediction of stock returns (the relation between working capital of the previous year and current year stock returns). If the change of net working capital of the previous period has significant relation with the stock returns in the study model, it can be said that the variable had information content.

Table (8): The results of model estimation of the second hypothesis

Explanation	Parameter	Coefficient	t-static	p-value
Fixed coefficient	β_0	-0.0984	-4.0216	0.0000
NI_{t-1}	β_1	1.5425	3.4356	0.0041
dWC_{t-1}	β_2	-0.4366	-4.6988	0.0000
$INVACC_{t-1}$	β_3	-0.0856	-0.8857	0.1425
$NTACC_{t-1}$	β_4	0.2363	1.6629	0.5984
$LEVERAGE_t$	β_5	-1.5764	-1.8924	0.0188
$SIZE_t$	β_6	0.2287	6.9087	0.0000
Adjusted R^2	0.2897			
F-static	6.3240			
F (p-value)	0.0000			
D-W	2.2218			
Number of observations	918			

Source Researcher calculations

Based on the results of Table 8, t-statistics of independent variable dWC_{t-1} and its significance level (p-value) was -4.6988 and 0.0000. Regarding this independent variable, it can be said that working capital changes of the previous year with confidence level 99% had significant relation with stock returns of the current year and as the coefficient is negative, the type of the relation of the changes of working capital in the previous period and current year stock returns had inverse relation. Thus, the third hypothesis is supported.

Fourth hypothesis of the study investigated the information content of investment in long-term accruals in prediction of stock returns (the relation between investment in long-term accruals of the previous year and current year stock returns). Based on the results of Table (8), t-statistics of independent variable $INVACC_{t-1}$ and its significance level (p-value) was -0.8857, 0.1425. As the error level considered for this study was 0.05 and its

significance for the variable was more, there is no relation between long-term accruals of the previous year and current year stock returns and the fourth hypothesis is not supported.

The fifth hypothesis of the study investigated the information content of non-transaction accruals in prediction of stock returns (the relation between non-transaction accruals of the previous year and current year stock returns). Based on the results of Table (8), t -statistics of $NTACC_{t-1}$, there is o relation between non-transaction accruals and stock returns of the current year and the fifth hypothesis of the study is not supported.

Conclusion and recommendations

The results of the estimations showed the support of first, second and third hypotheses and the rejection of the fourth and fifth hypotheses.

By supporting the first to third hypotheses, it can be said that net earnings, total accruals and the changes of net working capital had information content among the study companies and had prediction power of stock market of the next years. Regarding the long-term accruals and non –transaction accruals, it was not the same and it can not be said that these two variables have information content.

Based on the result, the data of published earnings affect in the form of financial statements on price and stock returns of the study companies. Thus, accounting earnings in these reports have the information content helping the investors in estimation of the price, time and uncertainty of future stock return. The results of the findings of this hypothesis were consistent with the results of the study done by Mazar Yazdi et al., (2006), Resutek and Lewellen (2012). They stated in their study that accounting earnings had information content.

As it was said, in some cases as the information of total accruals (the changes of net operating assets), the reaction is not rational and it leads into some anomalies as the increase or decrease of the prices. The overreaction or under reaction is occurred when people determine the stock price higher or lower than its value based on new information because the investors consider the earnings information more and they are not aware of the negative relation between accruals and stock returns. The higher the accruals of the earnings, the less reliant the decisions of the stockholders based on earnings. Although the market finds about its mistakes after awhile and it is balanced, this economical behavior is a kind of non-rational behavior in the market and it is a kind of rational reaction to the uncertainties of the investors.

The results of the second hypothesis test were consistent with the results of the study done by Sloan (1996), Richardson et al., (2001), Chan et al., (2006) and Resutek and Lewellen (2012) but they were inconsistent with the results of the study done by Hirshelifer et al. (2009). They showed in their study that accruals are strong and positive predictor for stock return but cash flows were negative predictors.

The results of third hypothesis test based on pooled data showed that there is a negative and significant relation between the changes of net working capital of the previous period and stock returns in the second model. This type of accruals is anomaly and the changes of stock returns were inverse with the changes of working capital accruals and it was despite the expectations of the stock holders.

Regarding the fourth and fifth hypotheses, it can be said that there was no significant relation between investment changes in long-term accruals and non-transaction accruals with stock return of the next period. Based on the results, it seems that using this classification of accruals is not good among the stock markets of Iran. The probable reasons of rejecting fourth and fifth hypotheses are as following:

The companies have the required ability in disclosure and classification of the financial statements items. It is possible that classification of the items is not done exactly as financial position and explanatory notes and or they are not uniform with the previous years and similar companies. Also, various factors can affect the stock returns in the study model. In other words, it is possible that other independent variables are used in this relation and there is not study in this regard.

The current study has some limitations and due to some of the selective criteria (e.g. fiscal year leading to the end of Esfand, the lack of the change of fiscal year, etc) in selection of the companies, the studied companies were reduced to 102 companies and the study was done during 1381 to 1390 (2002 to 2011). Thus, generalization of the results of this study to other companies should be done cautiously. The inflation conditions of Iran and the lack of adjustment of the financial statement items is effective on the calculation of study variables but as it was not done in Iran, the inflation effect was ignored in this study.

The legal or real entities using this research are as following:

Based on the study results, it is recommended that the investors take their decision for investment in the information presented in financial statements of the companies (e.g. earnings, total accruals and net working capital) and the study of financial analyzes and agents of TSE and select their optimal portfolio. Based on the results of the study, among the various components of accruals, non-transaction accruals and investment on long-term accruals

didn't have significant relation with stock returns. Thus, it is better that the stock holders use total accruals, net earnings or net working capital. The following researches are recommended:

a. The study of the persistence of the constituents of earnings including total accruals, non-transaction accruals and investment on long-term accruals.

b. The comparison of cash and accrual components in prediction of stock returns of the companies listed in TSE.

c. The evaluation of the information content of the various components of accruals by separated industries and comparison of the industries.

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