



The Effects of Accruals and Cash Flow Anomalies on Net Profit and Abnormal Stock Returns in Accepted Companies in Tehran Securities Exchange

Saeid Barati ^{a,*}, Hossein Karbasiyazdi^b

^aDepartment of Management, Arak Branch, Islamic Azad University, Arak, Iran.

^bDepartment of Management, South Tehran Branch, Islamic Azad University, Tehran, Iran.

ARTICLE INFO

Article history:

Received 11 January 2017

Accepted 22 April 2017

Keywords:

Net profit;

Abnormal stock return;

Accruals anomalies;

ABSTRACT

Reliability and efficacy of accruals and cash flows which are among the most important factors affecting dividend deviation have always been in question and subject to anomalies. The presence of these anomalies in accruals and cash flows and its effect on future returns and the consequences that they can have in country's investments are the main motives to choose this issue for the current study. The statistical population includes all the accepted companies in Tehran Securities Exchange in the time domain of 2005 to 2012 that were studied after the systematic elimination of 153 companies from the original sample and 45 companies from the dividend continuity sample. The research is descriptive and correlational and the research assumptions are tested using statistical techniques. The results indicate that the first assumption based on rational pricing related to cash flows and total accruals in the companies in Tehran Securities Exchange is rejected in the study period; this indicates anomalies and regarding the significance of the coefficient related to the total accruals among the group of companies under study, the companies with low accruals have a higher abnormal return compared to companies with high accruals.

1 Introduction

Starting with the article of Sloan [26] titled "Do Stock Prices Fully Reflect Information in Accruals and Cash Flows about Future Earnings", the cash flow and accrual components of earnings have been frequently used in testing stock market efficiency. Sloan [26] examines the impact of different persistence degrees of cash flow and accrual components of earnings on the persistence of earnings and its reflection on stock prices [26]. The author asserts that when market participants create an expectation of future period earnings, they overestimate the persistence of accruals and underestimate the persistence of cash flows. Consequently, the author indicates that firms with high (low) accruals earn negative(positive) abnormal returns in the future periods. This condition signifies that markets overprice accruals and is defined as the "accrual anomaly". Following Sloan [26], several studies examine ac-

* Corresponding author. Tel. 09125535715
E-mail address: saeidbarati20172017@gmail.com

crual components [27], [26], [21], [18]. relations between accrual anomaly and other anomalies [1], [8], [9]. alternative explanations for the accrual anomaly [12], [10]. and international evidence on the existence and persistence of the accrual anomaly [25], [19], [7]. Most of these studies explore the existence of the accrual anomaly from various aspects and concentrate on capital markets of developed countries like U.S. and E.U. The main purpose of this study is to investigate the existence of accrual anomaly on Borsa Istanbul. In this context, the general framework of our study is designed similar. [6], [16], [14]. In order to test the existence of accrual anomaly, we use Mishkin test and hedge portfolio analysis. Our full sample consists of 158 firms. Also, we look into whether loss firms affect accrual anomaly. Thus, we form a sub-sample consisting of 53 firms, which make profit consistently between the years 2005 and 2010. In the analysis, financial statements of these firms between the years 2005-2010 and market data of them between the years 2006-2012 are used.

2 History Research

The presence of anomalies in accruals was first introduced Sloan [26], who shows that the performance sustainability of current earnings results in decrease in the amount of total accruals components and increase in the amount of cash flow components. He explains that investors cannot differentiate between various properties of total accruals and the components of cash flows of current earnings. Following Sloan's article "Does stock price fully reflect information in accruals and cash flows about companies' future earnings?", cash flows and components of accruals are often used to test stock market efficiency. He has assessed the effect of the presence of various cash flow degrees and components of earning accruals on the continuity of earnings and has argued that when participants in the market have expectations related to the company's future earnings, they will overvalue the continuity of accruals and undervalue the continuity of cash flows. He shows that companies with high (low) accruals can earn negative (positive) abnormal returns in the following periods. This implies that the market overprices accruals which are defined as accruals anomaly [2].

Papanastopoulos [22] shows that the increase in accounting disclosure and protecting and supporting investors is useful for eliminating defects and enhancing exact prices in capital market [22]. Kim et al. [14] argue that when using traditional accruals, they do not use percent accruals and when companies use traditional accruals, the lowest decile of accruals is related to companies with low cash flows and percent accruals is a useful alternative for traditional accruals [14]. Ozkan and Kayali [21] show that there is no mispricing related to earning components in Istanbul Exchange. However, when part of the sample is studied, mispricing of accruals and its components and accruals anomalies are observed [21].

Linna et al. [17] show that accruals anomalies documented in Sloan's study are weaker in companies with analysts' predictions of cash flows and this decrease in mispricing of accounting accruals is highly due to abilities of investors in manipulating accruals prices. In a study titled "An investigation of the accrual anomaly...", [17]. Celik et al. [4] show that there is accruals anomaly in Istanbul Exchange [4]. Clinch et al. [6] demonstrate that accruals anomaly exists in Turkey. Furthermore, it has been observed that first, investors in Australia have underestimated the continuity of earning; second, investors in this country have analysed accruals and cash flows for the continuity of earnings [6]. Chen and Jiang [5] show that intrinsic book value and intrinsic market value can explain accruals anomaly to a small extent and most of it is related to components of growth/risk [5].

After using components of intrinsic book value and intrinsic market value, we can observe that explanatory power of accruals return has improved significantly compared to when book value and market value were used. Hirshleifer et al. [11] demonstrate that accruals have a positive and robust relation with stock return and cash flow has a reverse prediction ability compared to stock return. Also, accruals and cash flows have information content efficient on discount rate [11].

Aghaei et al. [1] show that the ability of normal cash flows is higher than abnormal cash flows in predicting future cash flows and returns and the ability of normal accruals is lower than abnormal accruals in predicting future cash flows and is higher in predicting future return [1]. Hashemi et al. [12] demonstrate that there is accruals anomaly in Iran's capital market. Also, the risk of financial inability on the relation between accruals and future abnormal stock return has shown that there is a significant relation between accruals and fluctuating working capital. Also, there is an inverse relation between sales growth and accruals and between inventory accruals and inventory value decrease. But there was no significant relation between the estimation error of accruals and the continuity of accruals. Mahmoudabadi and Mansouri [19] show that discretionary and non-discretionary accruals variables are unable to predict future cash flows. Dastgir and Restegar-Pouyani [10] demonstrate that earning quality (sustainability of earnings) has a direct relation with the quality of accruals; it increases with the decrease in the quality of accruals and the increase in the size of stock return accruals. Hashemi et al [12] find that the ability of cash flows and total accruals in determining corporate value and predicating earnings were abnormal and the component of accruals having the ability of predicating earnings was abnormal, too; although, in the optional sample level, only some coefficients of the components of accruals were statistically significant. Mirfakhrodini et al. [20] argue that last profits, cash flows and accrual components of earnings can be used for predicting future cash flows but there is no different ability among these three prediction model.

3 Methodology of the Research

The current study is of practical type and uses after-event approach. The practical study aims to develop practical knowledge in a specific area. Also, the current study is descriptive-correlational regarding its method and nature. Information-gathering is done through library methods and the research data is collected referring to financial statements and descriptive notes and using Rahavard Novin and Tadbir Pardaz softwares.

3.1 Research hypotheses

Regarding theoretical foundations and purposes of the research, the following hypotheses are presented:

H1: There is a significant relation between the continuity of earnings related to higher cash flows than the net profit and the continuity of earnings related to lower accruals than the net profit and abnormal stock return

H2: Companies with a low level of accruals have a higher abnormal return compared to companies with a high level of accruals.

3.2 Statistical Population and Sample Selection

The statistical population includes all of the companies accepted in Tehran Securities Exchange in the time domain of 2005 to 2012. The stages of sample selection are presented in Table 1.

Table 1: Various stages of sampling

(18)	Number of companies that exited in the time domain of 2005 to 2012
(93)	Number of companies that entered the stock market in the time domain of 2005 to 2012
(82)	Number of companies whose fiscal years ended on 12/29 in the time domain of 2005 to 2012
(41)	Number of companies that changed their fiscal year in the time domain of 2005 to 2012
(75)	Number of companies occupied in investments, intermediation and investment funds in the time domain of 2005 to 2012
(83)	Number of companies whose information didn't exist in Rahavard Novin software in the time domain of 2005 to 2012
(91)	Number of companies that had more than 3 months of trading intervals in the time domain of 2005 to 2012
(483)	Total deduction
153	Number of companies under study

In Table 1, 153 companies were selected as samples calculated for statistical hypothesis testing.

3.3 Model and Research Variables

In the following, we will provide research models where models (1) and (2) are related to H1:

$$NI_{it+1} = \gamma_0 + \gamma_1 CFO_{it} + \gamma_2 TOTACC_{it} + \varepsilon_{it+1} \tag{1}$$

$$SAR_{it+1} = \beta(NI_{it+1} - \gamma_0 - \gamma_1^* CFO_{it} - \gamma_2^* TOTACC_{it}) + \varepsilon_{it+1} \tag{2}$$

In models (1) and (2), asterisked coefficients indicate an estimation of the latent continuity of earning components in stock return and unasterisked coefficients are directly estimated from earnings, cash flows and accruals. Reasonable pricing in an efficient market requires investors' true insight into this matter. Therefore, in an efficient market, it is expected that $\gamma_q^* = \gamma_q$, where $q=1, 2$. At the first look, knowing the general belief that Iran's stock market is an ineffective one, using this assumption for Iran's stock market seems incorrect; however, noticing that the purpose of using this assumption is investigating the presence of anomalies in accruals and cash flows in Iran, the application of this assumption can be justified. In other words, if the presence of anomalies in accruals and cash flows is proved for Iran, the inefficiency of Iran's stock market will be reemphasized. In order to test the efficiency of the market, [20] demonstrates that the statistic of the likelihood ratio has a chi-square distribution $X^2(q)$ and argues that the market has a reasonable pricing for the components of earnings which is given in Model (3) [28].

$$X^2(q) = 2 * n * \ln\left(\frac{SSR^c}{SSR^u}\right) \tag{3}$$

In the expression above, q indicates the number of limitations applied in the efficient market, n indicates the number of observations, SSR^c indicates the sum of squared residual in the constrained

regression and SSRu indicates the sum squared of residual in the unbound regression. The assumption of reasonable pricing of the components of cash flows and accruals of earnings ($\gamma_q^* = \gamma_q$, where $q=1, 2$) is rejected when the statistic of the likelihood ration is statistically significant. In order to test this hypothesis, all of the companies under study are divided into five groups based on the size of total accruals, normal accruals, abnormal accruals and cash flows. The first group includes companies with the lowest amount of accruals while the fifth group contains companies with the most amount of accruals [23] Model (4) is related to the second hypothesis:

$$SAR_{it+1} = \beta_0 + \beta_{1i}TOTACC_{it} + \beta_{2i}SIZE_{it} + \beta_{3i}EP_{it} + \beta_{4i}BM_{it} + \mu_{it+1} \quad (4)$$

Dependent variables are stated as follows:

A) Future net profit: This is calculated through Model (5) [17]

$$NI_{it+1} = TR_{it+1} - TC_{it+1} \quad (5)$$

$$SAR_{it+1} = R_{it+1} - R_{it+1} \quad (6)$$

B) Annual abnormal return: This is calculated through Relation (6) [16]

The independent variables are stated as follows:

A) The continuity of the net profit related to accruals anomalies: the company preserves its profit in the long run and the accruals anomalies are calculated through the five-year standard deviation estimate of accruals before the abnormal accruals are divided by total asset in the beginning of the year [21]

$$NIBE_{it} = \alpha + \beta_1 TOTA_{it-1} + \beta_2 CFO_{it-1} + \varepsilon_{it} \quad (7)$$

β_1 : The continuity of profit is related to total accruals; the closer the number to 1, the more the continuity of the profit.

B) The continuity of the net profit related to cash flows: the company preserves its profit in the long run and the continuity of the profit related to cash flows is calculated through standard deviation estimate of the five-year cash flows before the accruals are divided by total assets in the beginning of the year [21]

$$NIBE_{it} = \alpha + \beta_1 TOTA_{it-1} + \beta_2 CFO_{it-1} + \varepsilon_{it} \quad (8)$$

β_2 : The continuity of the profit is related to cash flows; the closer the number to 1; the more the continuity of the profit.

C) Operating cash flows: It is the incoming and outgoing cash flow by the main activities and continuous generation of the operating income of the business entity and also the cluster of cash flows which cannot be associated directly with other classifications of cash flow statement. It is expected that there is a positive relation between operating cash flows and future stock price, and there is a direct and significant relation between operating cash flows and abnormal stock return which is calculated through Model (9):

$$CFO_{it} = \text{earnings before interest and taxes} + \text{depreciation expenses} - \text{taxes} \quad (9)$$

D) Total accruals: This is calculated through the difference between the net profit and operating cash flows [11] It is expected that there is a negative relation between the total amount of accruals and fu-

ture stock price, and total accruals and abnormal stock return have a significant, negative relation which can be calculated through Model (10):

$$\text{TOTACC}_{it} = \text{NI}_{it} - \text{CFO}_{it} \quad (10)$$

Control variables can be described as follows:

A) Size of the company which is calculated through Model (11):

$$\text{Size of company} = \log(\text{share price} \times \text{number of shares}). \quad (11)$$

B) Profit-to-price ration which is calculated through Model (12), [11].

$$EP\ it = \frac{\text{Earning after taxes}}{\text{Stock price}} \quad (12)$$

C) Book value-to-market value ration which is calculated through Model (13), [11].

$$BM\ it = \frac{\text{Book value per share}}{\text{Market value per share}} \quad (13)$$

4 Main Results

4.1 Descriptive Statistics

The results of descriptive statistics of research variables are presented in Table 2. In Table 2, the main average central index equals 0.0280 in the original sample and 0.1153 in the sub-sample. The mean is another one of central indices which, for the net income variable, equals 0.0259 in the original sample and 0.0789 in the sub-sample. One of the most important dispersion parameters is standard deviation, which, for the net income variable, equals 0.0815 in the original sample and 0.6325 in the sub-sample. The next two columns respectively indicate minimum and maximum value of the research variables. Skewness for the net income variable equals 0.2831 in the original sample and 0.3108 in the sub-sample.

4.2 Inferential Statistics

Kolmogorov–Smirnov Test:

In the current study, Kolmogorov–Smirnov test is used in order to test the normality. The results are presented in Table 3.

In Table 3, the level of significance related to the abnormal stock return variable is more than 5 per cent. So there is no reason to reject the null-hypothesis and the data related to the abnormal stock return variable has a normal distribution.

Investigating the Durability of Research Variables:

Levene-lee-Chu Durability test is applied in the current study and the results are presented in Table 4. In Table 4, the results of Levene-Lee-Chu test indicate the durability of all research variables.

F-Limer Test and Hausman Test:

The results from the estimation of F-Limer statistic and Hausman statistic for the research pattern are presented in Table 5.

Table 2: Descriptive statistics of the original variables under study

Variable	Average	Standard Deviation	Mean	Minimum	Maximum	Skewness
Original Sample – H2						
Future net income	0.0280	0.0815	0.0259	-0.1123	0.2259	0.2831
Operating Cash flows	0.0423	0.1182	0.0325	-0.1589	0.2450	0.5801
Total accruals	-0.0222	0.1123	-0.228	-0.4103	0.3328	0.5214
Annual abnormal return	0.0125	0.6128	-0.0798	-1.6982	6.5213	0.7030
Book value-to-market value ration	0.3401	1.5698	0.1112	0.0558	0.7812	0.4425
Company size	0.5877	1.0140	0.4021	0.3236	1.2100	0.3760
Profit-to-price ratio	0.1615	0.1526	0.1625	0.1500	0.1170	0.1022
Observations	765	765	765	765	765	765
Dividend Continuity Sample – H1						
Future net income	0.1153	0.6325	0.0789	0.221	0.1789	0.3108
Operating cash flows	0.1253	0.8880	0.1223	-0.0456	0.2875	0.3275
Total accruals	-0.0075	0.08765	-0.0120	-0.2845	0.2831	0.1167
Annual abnormal return	0.0440	0.6231	-0.0072	-1.6591	4.4465	0.5509
Observations	225	225	225	225	225	225

In Table 5, the probability of F-Limer test for the given equation is smaller than 5 per cent.

Table 3: Results of Kolmogorov–Smirnov test

Annual abnormal return	
225	Number of observations
0.134	Statistic of the test
0.152	Level of significance

Table 4: Results of durability test of research variables

Variable	Probability	Statistic of Levene-Lee-Chu	Durability Type
Net income	0.0000	-13.48	I(0)
Annual abnormal return	0.0000	-28.57	I(0)
Operating cash flows	0.0000	-10.33	I(0)
Total accruals	0.0000	-14.17	I(0)
Company size	0.0000	-17.37	I(0)
Profit-to-price ratio	0.0000	-144.51	I(0)
Book value-to-market value ration	0.0000	-26.05	I(0)

Table 5: Results of F-Limer test and Hausman test and Hausman statistic for the research patterns

			Statistic Value	p-value	Results
First hypothesis of research	First equation	F-Limer	21.3765	0.0436	Panel method
		Hausman	130.7560	0.0081	Fixed effects
	Second equation	F-Limer	42.3265	0.0001	Panel method
		Hausman	110.3215	0.0001	Fixed effects
Second hypothesis of research	Third equation	F-Limer	52.1565	0.0056	Panel method
		Hausman	99.9519	0.0001	Fixed effects

The assumption of combined model (H0) is not confirmed and the panel data method must be used in order to estimate the model. It is observed in the results of Hausman test that the value of the test probability is less than 5 per cent; therefore, the hypothesis of fixed effects model (H1) is accepted and the research patterns will be estimated through the panel data method and the fixed effects.

Multicollinearity Test:

The results of VIF multicollinearity test are presented in Table 6. Table 6 indicates the existence of a common multicollinear relation between the data where the tolerance is more than 0.1, which is not between independent multicollinear variables

Durbin-Watson Test:

The results of Durbin-Watson test for the research variables are presented in Table 7.

Table 6: Results of VIF multicollinearity test

Model	Non-standard coefficient		Standard coefficient				VIF
	B	Standard deviation	Beta		T	Sig.	
(Constant)	15.276	0.996		15.339	1.000		1.000
Net income	-96.716	6.158	-0.537	-15.706	0.627		1.594
CFONI 15.276 – 96.716							
(Constant)	17.381	1.180		14.735	0.627		1.594
Net income	-112.099	7.713	-0.623	-14.53	0.604		1.594
Annual abnormal return	0.045	0.014	0.140	3.267	0.625		1.600
SAR0.045+NI17.381-112.716							
(Constant)	17.991	1.189		15.128	0.918		1.089
Net income	-116.580	7.806	-0.648	-14.93	0.597		1.676
Annual abnormal return	0.042	0.104	0.132	3.100	0.621		1.609
Operating cash flows	0.028	0.009	0.106	3.008	0.910		1.099
CFO+0.028SAR+0.042NI17.381-116.580							
(Constant)	17.484	1.199		14.579	0.973		1.028
Net income	-118.906	7.819	-0.660	-15.21	0.596		1.678
Annual abnormal return	0.045	0.014	0.141	3.304	0.621		1.610
Operating cash flows	0.026	0.009	0.097	2.757	0.907		1.102
Total accruals	1.230	0.469	0.089	2.622	0.972		1.029
TOTACC+1.230CFO+0.026SAR17.484-118.906-0.045							
(Constant)	17.509	1.196		14.645	0.989		1.011
Net income	-199.552	7.801	-0.664	-15.33	0.000		1.011
Annual abnormal return	0.044	0.014	0.138	3.257	0.001		
Operating cash flows	0.025	0.009	0.093	2.649	0.008		
Total accruals	1.265						
Company size							
Profit-to-price ratio		0.468	0.092	2.703	0.007		
EP+0.112TOTACC+1.265CFO+0.025SAR+0.044NI-119.552							

Table 7: The results of Durbin-Watson test

Model	Number of observations	Durbin-Watson
First	225	1.895
Second	765	1.886

In Table 7, it equals 1.895 in the first model and 1.866 in the second model; these numbers indicate the lack of autocorrelation in the error terms of the models.

Correlation Coefficient and the Coefficient of Determination:

The test result of correlation coefficient and the coefficient of determination for the variables in the research patterns are presented in Table 8.

Table 8: Test results of correlation coefficient and the coefficient of determination

Model	Correlation coefficient	Coefficient of determination	Adjusted coefficient of determination	Standard error of estimate
First	0.757	0.609	0.606	0.1455647
Second	0.792	0.643	0.637	0.1427388

In Table 8, the correlation coefficient related to the first and second patterns of the research are 0.757 and 0.792, respectively. These numbers are in the significant error level of 5 and there is a significant relation between the variables applied in the research patterns. Also, the calculated coefficient of determination for the research patterns are 0.609 and 0.643, respectively and these numbers are robust; that is, about 60 and 65 per cent of the changes in the dependent variable are explained by the independent and control variables.

4.3 The Analysis Based on the Panel Data and Fixed Effects

After the implementation of F-Limer and Hausman tests and determination of the estimation method, models were estimated as the following:

4.3.1 Estimation of the First Equation Set of Research

2SLS method is applied for the test of market efficiency related to Mishkin [18] (in the format of cash flow and total accrual rational pricing) and the results are presented in Table 9.

In Table 9, the value of the coefficient of determination for the dividend continuity sample equals 0.68 indicating a quite high relation of independent variables with the dependent variable. Also, Durbin-Watson statistic suggests the absence of autocorrelation in the pattern.

Knowing that all coefficients related to the research variables are statistically significant and the

value of the coefficient of determination is acceptable, we can conclude that there is no multicollinearity problem in the estimation pattern. Both estimation patterns based on the dividend continuity sample have had positive and significant effects on dependent variables.

In order to test the assumptions of market efficiency related to [20] Wald test is applied and the results are provided in Table 9.

Table 9: Results of the combined regression estimation of the first equation set of research

Parameter		Coefficient	Probability limit (p-value)
γ_0		0.1455	(0.0001)
Coefficient of operating cash flow in Equation (1)		0.5711	(0.0001)
Coefficient of operating cash flow in Equation (2)		0.5952	(0.0003)
Coefficient of total accruals in Equation (1)		0.6742	(0.0002)
Coefficient of total accruals in Equation (2)		0.7173	(0.0001)
β		2.3920	(0.0002)
Coefficient of determination	6837	Adjusted coefficient of determination	0.6393
Durbin-Watson Statistic		1.6576	

In Table 10, the constraint tests above are implemented for the following equation set (dividend continuity sample)

$$NI_{it+1} = 0/1455 + 0/5711 CFO_{it} + 0/6742 TOTACC_{it} \quad (14)$$

$$SAR_{it+1} = 2/3920 (NI_{it+1} - 0/1544 - 0/5952 CFO_{it} - 0/7173 TOTACC_{it}) \quad (15)$$

In this study, the assumption of rational pricing related to the components of profit (cash flows and total accruals) is estimated for the dividend continuity model.

The second column of Table 6 shows that the coefficient related to total accruals in the dividend continuity model is $\gamma_2^* = 7173$, bigger than the coefficient related to total accruals $\gamma_2 = 0.6742$. In this relation, statistic χ^2 (13.3594) indicates that the null-hypothesis based on the rational pricing related to total accruals in the dividend continuity model is rejected, too.

On the other hand, it is observed that the coefficient related to cash flows $\gamma_1^* = 0.5952$, is bigger than the coefficient $\gamma_1 = 0.5711$. In this relation, statistic χ^2 (6.6104) indicated that the null-hypothesis based on the rational pricing related to cash flows is rejected. Regarding χ^2 (40.4409) based on the rational pricing of both cash flows and total accruals ($\gamma_1 = \gamma_1^*$ and $\gamma_2 = \gamma_2^*$) in the dividend continuity model, the null-hypothesis based on the rational pricing related to cash flows and accruals in the dividend continuity model is rejected.

Table 10: Results of the test of market efficiency assumptions

Null-Hypothesis	Dividend continuity Sample	
	Statistic χ^2	Probability limit
$\gamma_1 = \gamma_1^*$	6.6104	0.0110
$\gamma_2 = \gamma_2^*$	13.3594	0.0078
$\gamma_1 = \gamma_1^*$ and $\gamma_2 = \gamma_2^*$	40.4409	0.0002

4.3.2 Estimation of the Second Equation of Research

Estimation results of the second equation of the research are presented in Table 11 through panel data with fixed effects.

In Table 11, the value of the coefficient of determination equals 0.74 in the estimation results of the regression model. The value of the coefficient of determination indicates a quite high relation of independent variables with the dependent variable. Durbin-Watson statistic suggests the lack of autocorrelation in the pattern. Also, noticing that most of coefficients related to the research variables are statistically significant and the value of the coefficient of determination is acceptable, we can conclude that there is no problem of multicollinearity in the estimation pattern. The coefficient related to the variables of total accruals, book value-to-market value ratio and profit-to-price ration are statistically significant, but the efficiency of the total accruals variable is negative and the efficiency of book-value-to market value variables and profit-to-price ratio are positive, and the coefficient related to other variables in the research are not statistically significant. Regarding the significance of the coefficient related to total accruals among the group of companies under study, companies with a low level of accruals have a higher abnormal return compared to companies with a high level of accruals; therefore, the second hypothesis is rejected.

Table 11: Estimation results of the combined regression of the second equation of research

$SAR_{it+1} = \beta_0 + \beta_{1i}TOTACC_{it} + \beta_{2i}SIZE_{it} + \beta_{3i}EP_{it} + \beta_{4i}BM_{it} + \mu_{it+1}$				
	Coefficient	Standard Deviation	Statistic t	Probability
y-intercept	-3.4571	0.8844	-0.9087	0.1001
Total accruals	-0.2991	0.1381	-2.2757	0.0413
Company size	0.3177	0.0644	0.9274	0.1010
Profit-to-price ration	0.3170	0.1520	2.0854	0.0376
Book value-to-market value ratio	0.2020	0.0677	2.9809	0.0030
Coefficient of determination	0.7469	Adjusted coefficient of determination		0.7284
Statistic F	28.4269	Probability F		0.000
Durbin-Watson		2.4300		

5 Discussion and Conclusion

This study aims to find the effects of accruals and cash flow anomalies on the net profit and abnormal stock return. The empirical findings of this research show that the first assumption of the research based on rational pricing related to cash flows and total accruals in the companies under study in Tehran Securities Exchange in the given period is rejected indicating anomalies. Also, other findings of the research show that regarding the significance of the coefficient related to total accruals among the companies under study, companies with a low level of accrual have a higher abnormal return compared to companies with a high level of accruals.

Sloan [26] and Xie [27] show that the components of profit include cash flows and accruals (accruals, normal accruals and abnormal accruals in total), [29] have various consequences for the dividend continuity, so that investors cannot distinguish between neither these concepts nor the mispricing of them. Furthermore, these studies show that investors can obtain an abnormal return through selecting companies with lower accruals in a longer period or companies with higher accruals in a shorter period. In this regard, Dopuch et al. [9] and Lee et al. [16] provide some evidence on mispricing of cash flows and accruals. [13] Nevertheless, they have considered in their arguments only the companies with profit and they have eliminated the companies with loss. Results of Mishkin test related to the complete sample in the research show that both accruals and cash flows are subject to anomalies and they are not rationally priced. These results for the sub-sample (The dividend continuity sample) are confirmed. Such results are consistent with the findings of Dopuch et al. [9] and Lee et al. [16], who argue that there are anomalies in total accruals and cash flows [8].

Regarding the findings of this research indicating that the components of profit including cash flows and accruals in Tehran Securities Exchange are subject to anomalies and mispricing, it is suggested to investors and analysts not to be confined to the profit and the procedure in their decision patterns but to obtain more useful information for predicting profitability and future cash flows of companies through breaking the profit into its constituents and investigate the procedure of these them.

Noticing that among the most important factors affecting stock price we can point to the prediction of the profit of each share and that it was shown that the profit review published by companies due to the anomalies related to the components of profit (including cash flows and total accruals) is subject to deviation, it is suggested to investors and analysts to predict the stock price of the accepted companies in Tehran Securities Exchange using the information content of cash flows and total accruals. With respect to the fact that, on the one hand, the anomalies in accruals and cash flows cause a reduction in reliability and efficacy of accruals and cash flows in relation to the prediction of profit and, on the other hand, accruals and cash flows possess components which may be subject to deviation, it is suggested to investors and analysts to first determine the components of cash flows and accruals in the company level in each industry and then estimate the prediction models based on these components in each given industry.

We suggest researchers to look into the following in their future studies: Using standard asset pricing models to investigate the effects of anomalies in accruals and cash flows Analysing the presence of accruals anomalies for the companies accepted in Tehran Securities Exchange through various accounting standards

Investigating cash flows and their components and the relation between total accruals and the anomalies in cash flows

Investigating accruals and their components and the relation between cash flows and the anomalies in total accruals

The most important limitation of the current study is the lack of disclosure of information related to the research variables. The information related to all research variables for the companies in stock market is not fully accessible. Accordingly, in order to prevent predilections for the research results, some year-companies were eliminated from the statistical sample resulting in a reduction in the sample volume.

References

- [1] Mohammadali, A., Sepasy, S., Kazempour, M., *Study analysing the impact of the breakdown of operating cash flows and accruals on the ability to predict future cash flows and earnings*, Quarterly financial management strategy, 1993, 2(4), P. 75-89.
- [2] Allen, E., Larson, Ch., Richard, G.S., *Accrual Reversals*, Earnings and Stock Returns, available at: <http://www.ssrn.com/>, 2012.
- [3] Ball, R., Brown, P., *An empirical evaluation of accounting income numbers*. Journal of Accounting Research, 1989, 6(2), P.159-178.
- [4] Çelik, S., Ozkan, N., Akarım, Y. D., *An investigation of the accrual anomaly in the Turkish stock market*. Middle Eastern Finance and Economics, 2013, 19(5), P. 7-15.
- [5] Chen, Y., Jiang, X., *Book-to-Market decomposition and the accrual anomaly*, Working paper, available at: <http://ssrn.com>, 2010.
- [6] Clinch, G., Fuller, D., Govendir, B., Wells, P., *The accrual anomaly: Australian evidence*. Accounting & Finance, 2012, 52(2), P.377-394.
- [7] Collins, D. W., & Hribar, P., *Earnings-based and accrual-based market anomalies: one effect or two?* Journal of Accounting and Economics, 2000, 29(1), P.101-123.
- [8] Demirtas, K.O., Zirek, D., *Aggregate earnings and expected stock returns in emerging markets*. Emerging Markets Finance and Trade, 2012, 47(3), P.4-22.
- [9] Dopuch, N., Seethamraju, C., Xu, W., *The pricing of accruals for profit and loss firms*. Review of Quantitative Finance and Accounting, 2012, 34(4), P.505-516.
- [10] Dastgir, M., Rastegar M., *Examine the relationship between earnings quality (earnings stability), the size of accruals and stock returns with the quality of accruals*, Financial accounting research, 2005, 1(7), P. 1-20.
- [11] Hirshleifer, D., Ei, H., Seiw, H.T., *Accrual, cash flows, and aggregate stock returns*. Journal of financial economic, 2009, 91(3), P. 389-406.

-
- [12] Hashemi, A., Samadi, S., Sorushyara, A. *Assessment of potency cash and accrual components to predict abnormal profits and the value of companies listed in the Tehran Stock Exchange*, The Financial Accounting Studies, University of Isfahan, 2003, 2(1), P.93-112.
- [13] Hribar, P., Collins, D. W., *Errors in estimating accruals: Implications for empirical research*, Journal of Accounting Research, 2002, 40 (1), P.105-134.
- [14] Kim, YJ., Kim, JH., Kwon, S., Lee, SJ., *Percent Accruals and the Accrual Anomaly: Korean Evidence*, Pacific-Basin Finance Journal, Doi: 10.1016/j.pacfin.2015.02.006, 2015.
- [15] Kormendi, R., Lipe, R., *Earnings innovations, earnings persistence, and stock returns*, Journal of Business, 1989, 60(3), P.323-345.
- [16] Li, Y., Niu, J., Zhang, R., Largay, J. A., *Earnings management and the accrual anomaly: Evidence from china*, Journal of International Financial Management & Accounting, 2011, 22(3), P.205-245.
- [17] Linna Sh., Zhang H., Guo, J., *Analyst cash flow forecasts and pricing of accruals*, *Advances in Accounting*, incorporating *Advances in International Accounting*, 2014, 30(12), P.25-37.
- [18] Mishkin, F.S., *A rational expectations approach to macroeconometrics: Testing policy ineffectiveness and efficient-markets models*. Chicago, IL: University of Chicago Press for the National Bureau of Economic Research, 1983.
- [19] Mahmoodabadi, H., Mansouri, Sh., *Discretionary and involuntary accruals role in forecasting future operating cash flows*, Financial accounting, Islamic Azad University of Mobarakeh, 2007, 3(10), P.1-17.
- [20] Mirfakhredini, H., Moeinadin, M. And Ebrahimpur, A, *Comparison of to cash flows and accruals to predict future cash flows*, Accounting and Auditing Investigations, Tehran University, 2008, 16(55), P.99-116.
- [21] Ozkana, N., Mustafa MK., *The accrual anomaly: Evidence from Borsa Istanbul*. Borsa Istanbul Review, 2015, 3(5), P.115–125.
- [22] Papanastopoulos, G.A. *Earnings management and the accrual anomaly*, The North American Journal of Economics and Finance, 2010, 3(3), P.39-54.
- [23] Pincus, M., Rajgopal, S., & Venkatachalam, M., *The accrual anomaly: International evidence*, The Accounting Review, 2007, 82(1), P.169-203.
- [24] Richardson, S., Tuna, I., Wysocki, P., *Accounting anomalies and fundamental analysis: A review of recent research advances*, Journal of Accounting and Economics, 2010, 50(3), P.410-454.
- [25] Hashemi, SA., Hamidian N., Khadijah I. *Check accrual anomaly with regard to the risk of failing financial firms listed in the Tehran Stock Exchange*, Financial Accounting Quarterly, 2009, 5(19), P. 1-20.
- [26] Sloan, R. G., *Do stock prices fully reflect information in accruals and cash flows about future earnings?* The Accounting Review, 1996, 71(3), P. 289–315.
- [27] Xie, H., *The mispricing of abnormal accruals*. The Accounting Review, 2001, 7(6), P. 357–373.