The Effect of Stock Returns on the Accrual Anomalies in the Listed Companies of Tehran Stock Exchange

Ali Reza Basere[1], Dr.Abbas Talebbeydokhti[2*]

[1]*Department of Management, International Qeshm Branch, Islamic Azad University, Qeshm, Iran*
[2]*Assistant Professor of Financial Management, Department of Management, International Qeshm Branch, Islamic Azad University, Qeshm, Iran*

[*]Corresponding Author Email: a_ beydokhti@yahoo.com

Abstract: Today, financial information is considered important as the strategic tool in the economic decision making. The aim of this study was to investigate the effect of stock returns on the accrual anomalies in the listed companies of Tehran Stock Exchange. The statistical population of this research was listed companies in Tehran Stock Exchange in 2008-2013. Hypothesis of multivariate regression models were analyzed using Eviews software. The results of the analysis showed that the stock return had effect on unusual commitment anomalies and unusual anomalies items on the accrual of future stock returns. And also, the data analysis was as the result of sales growth affected the equity of the book value to the equity market of unusual anomalies and the future stock returns.

Keywords: Accrual Anomalies, Stock Returns, Future Stock Returns, Sale, Book Vvalue on the Equity Market.

Introduction

Accrual anomalies were first introduced by Sloan (1996) as one of the most important findings of accounting research. Sloan (1996) showed that buying the stocks of companies that have lower accruals and the selling the stocks of companies that have greater accruals will increase the returns coverage of investors. Several studies have been conducted to discover the cause of the inefficiency of the market and the size and persistence of these anomalies were also examined. In most of these studies, accrual was measured by dividing of the difference in profit and cash flow from operations of the asset. Now, by minor changes between profit and cash flows rather than divided profit by average of total assets a new definition will appear as accruals percent which will change the results surprisingly. This interpretation is reported more natural than the bias of investors to benefit from the initial idea which was not allowed a distinction between accrual and cash flows of the investor. This measure of accruals focused on the based components of the profit, to the extent which distinguished the cash and accrual of the profit. Now, the question is that whether the accrual anomalies is as a result of misunderstanding of the investors of the difference between accrual and cash flows and also the trends of accrual to find the versus cash flow or not? The answer to this question can be identified by acquiring the stocks of companies that were price, as well as its recognition of the market of what the company understand or not understand.

Materials and Methods

This study was objective and applied research and in terms of methodology it was correlation-descriptive.

Approach to data analysis was cross-sectional and the assumptions were tested with regard to ranking models of the accrual anomalies, operating cash flow, sale and the book value to equity market were in relation with the future stock returns. In ranking models, the study variables have been allocated in each 10 deciles and 0-9 numbers were allocated to each decile. The number of each decile was also divided to 9 to specify the variables' ranking between 0 and 1. In order to estimate the accrual anomalies using two approaches of total accrual anomalies and the accrual anomalies of circulation items. The statistical population of this study included all companies listed in Tehran Stock Exchange in the period of 2008-2013. In this study, sampling was performed using systematic exclusion, so, the sample was included all listed companies in Tehran Stock Exchange which had the following conditions:

1. The financial year was ended to 20 March of each year.
2. During the research period have not changed their fiscal year
3. The tax information was completely and continuously available since 2008.
4. Did not include of the investment companies and financial intermediaries.
5. Companies should have a positive book value of equity in the research period and positive net operating assets.

To select a sample of companies, first all the listed companies were selected, in the following terms were considered for the other restrictions on the number of existing companies. Finally, 40 companies with these conditions have been selected over the period of 2008 to 2013.

Research Hypotheses
1. The stock return has effect on the accrual anomaly.
2. The commitment anomalies have effect on future stock return.
3. Growth of sales and the ratio of the book value have effect on the market equity, the accrual anomalies and the future stock returns.

Results

The results of the first hypothesis

Table 1. Estimated regression results.

The research model	$DACC = \beta_0 + \beta_1 rt + \beta_2 SG + \beta_3(BV/MV) + \varepsilon_i$		
Variables	Coefficient	T-statistic	Significant level
Constant coefficients	0.085	18.295	0.00
Stock returns	-0.027	-3.185	0.00
Sale growth	-0.004	-2.406	0.017
Equity ratio of book value to equity market	0.217	5.242	0.00
F-statistic		10.57	
Probability of F- statistic		0.00	
Durbin-Watson		1.823	
The coefficient of determination		0.692	
Adjusted coefficient		0.627	

Regarding to the F-test results for the second hypothesis which is shown in the table, the probability level is equal to zero and less than the significance level of α. Therefore, null hypothesis of F-test at 95% confidence level was rejected. Hence, the model was significant, and there was a linear relationship between the dependent and independent variables. According to the results of the table, the coefficient of determination was 0.69 which means that the independent variables explained 69% limit of changes in the dependent variable. The value of the coefficient of determination represented the explanatory power of the model in the dependent variable which was explained by the independent variable. Durbin-Watson statistic was used to examine the case because this amount was between 1.5 and 2.5, it can be concluded that there was no significant correlation between the error components in the model were independent. Durbin-Watson value was equal to 1.82 and at an acceptable level was located (between 1.5 and 5.2).

Table 2. Estimated regression results.

The research model	$DWCAAC = \beta_0 + \beta_1 rt + \beta_2 SG + \beta_3(BV/MV) + \varepsilon_i$		
Variables	Coefficient	T-statistic	Significant level
Constant coefficients	0.042	2.363	0.019
Stock returns	-0.078	-3.995	0.00
Sale growth	-0.090	-9.863	0.00
Equity ratio of book value to equity	0.046	4.077	0.00
F-statistic		40.49	
Probability of F- statistic		0.00	
Durbin Watson		1.958	
The coefficient of determination		0.896	
Adjusted coefficient		0.874	

According to the results presented in Table 2, as the variable factor of stock returns was negative (-0.027) and considering the significance, the level of t-test (0.0) was significant. Since, there was a significant relationship between the unusual accrual anomalies with the whole accrual approach and stock returns, as well as the results of table 4-6, the coefficient of the stock returns was negative (-0.078) and considering the significance level of t- test (0.0) was significant. Hence, there was a significant relationship between the unusual accrual anomalies and the stock returns. Therefore, the first hypothesis was confirmed regarding to the significant level of 95%. This means that the accrual unusual anomalies will affect future stock returns.

The second hypothesis test results

Table 3. Estimated regression results.

The research model	$DACC = \beta_0 + \beta_1 RET + \beta_2 SG + \beta_3(BV/MV) + \varepsilon_i$		
Variables	Coefficient	T-statistic	Significant level
Constant coefficients	0.095	5.321	0.00
Stock returns	-0.085	-4.325	0.00
Sale growth	-0.052	-3.021	0.00
Equity ratio of book value to equity market	0.325	5.242	0.00
F-statistic		12.32	
Probability of F- statistic		0.00	
Durbin Watson		1.952	
The coefficient of determination		0.584	
Adjusted coefficient		0.523	

According to the table results, the coefficient amount was equal to 58% which means that the independent variables explained 58% of changes in the dependent variable. The value of the coefficient of determination was represented the explanatory power of the model in the dependent variable by the independent variable. Durbin-Watson statistic was used to examine this case, since the amount was between 1.5 and 2.5, it can be concluded that there was no significant correlation between the error components in the model was independent. The Durbin-Watson statistic was equal to 1.95 and was located at an acceptable level (between 1.5 and 2.5).

Table 4. Estimated regression results.

The research model	$DWCAAC = \beta_0 + \beta_1 rt + \beta_2 SG + \beta_3(BV/MV) + \varepsilon_i$		
Variables	Coefficient	T-statistic	Significant level
Constant coefficients	0.054	3.215	0.00
Stock returns	-0.065	-3.852	0.00
Sale growth	-0.085	-8.215	0.00
Equity ratio of book value to equity	0.062	3.952	0.00
F-statistic		35.21	
Probability of F- statistic		0.00	
Durbin Watson		1.902	
The coefficient of determination		0.795	
Adjusted coefficient		0.774	

According to the results presented in table 4, since, the coefficient variable of the future returns equity is negative (-0.085) and considering the significance level of t-test (0.0) there was a significant relationship between the unusual accrual anomalies and the future stock returns. Also, according to the results presented in Table 9-4, since, the coefficient variable of the future returns was negative (-0.065) and according to the level of significance of t- test (0.0), hence, there was a significant relationship between the unusual accrual anomalies and the future stock returns. Therefore, the second hypothesis was confirmed at the significant level of 95%, which means that future stock returns will affect the accrual unusual anomalies.

The third hypothesis test results

Table 5. The results of regression (3-4).

The research model	$RET_t = \beta_0 + \beta_1 DACC + \beta_2 DWCAAC + \beta_3 SG + \beta_4(BV/MV) + \varepsilon_i$		
Variables	Coefficient	T-statistic	Significant level
Constant coefficients	0.039	1.419	0.175
Unusual commitment anomalies with accruals approach	-0.126	-4.521	0.00
Unusual commitment anomalies with working capital accruals	-0.0952	-5.622	0.00
Sale growth	-0.021	-3.178	0.00
Equity ratio of book value to equity	0.600	6.427	0.00
F-statistic		6.372	
Probability of F- statistic		0.00	
Durbin Watson		1.811	
The coefficient of determination		0.583	
Adjusted coefficient		0.491	

To search the significant linear regression of the model, F-test was used. The null hypothesis of the F-test indicated a significant and linear regression model. The F-test results for the second hypothesis which is shown in table represented the probability level to zero and less than the desired level of α, therefore, the null hypothesis of F-test at 95% was rejected and the model. Also, there was a linear relationship between the dependent and independent variables. According to the table results, the amount of coefficient of determination was equal to 0.58 which means

that the independent variables explained 58% of changes in the dependent variable. The value of the coefficient of determination explained the explanatory power of the model in the dependent variable by the independent variable. Durbin Watson used to investigate this case and because this amount was between 1.5 and 2.5, it can be concluded that there was no significant correlation between the error components and were independent. Durbin-Watson value was equal to 1.81 and was allocated at an acceptable level (between 1.5 and 2.5). According to the results presented in table 5, since the variable coefficient of the sale growth was negative (-0.021) and considering the significance level of t-test (0.0), hence, there was a significant relationship between sales growth and future stock returns. Also, as variable coefficient was positive to the book value equity (0.600) and according to the level of significance t-test (0.0) was significant. As a result, there was a significant relationship between the ratio of book value equity and future stock returns, also, based on the table 5-4, since the variable coefficient of sale growth was negative (-0.004) and the significant level of t-test (0.0), there was a significant relationship among the sale growth, unusual accrual anomalies and the approach of total accrual anomalies. Also, since the variable coefficient was positive to the equity ratio of book value (0.217) and considering the significance level of t-test (0.0), since, there was a significant relationship among the ratio of the book value, unusual accrual anomalies and the approach of total commitment anomalies. According to the results presented in table 5, since the variable coefficient of sale growth was negative (-0.090) and according to the level of significance t-test (0.0), hence, there was a significant relationship among the sale growth, commitment anomalies and unusual accrual commitment anomalies. Since, the variable coefficient was positive to the book value equity (0.046) and considering the significance level of t-test (0.0), hence, there was a significant relationship among the equity market, unusual accrual commitment anomalies equity and the working capital accruals. The third hypothesis was confirmed with the significant level of 95%. This means that the sale growth and the ratio of book to equity markets value affected the unusual accrual commitment anomalies and the future stock returns.

Conclusion

The first test results showed that the accrual return affected the unusual commitment anomalies which were consistent with the research results of Cooper et al (2008). The second hypothesis test results showed that the unusual commitment anomalies affected the accrual of future stock returns. This was consistent with the findings of Karami and Morshedzadeh-bafghi (2014). The third hypothesis test results showed that the sale growth and the ratio of the book value affected the equity market, equity commitment anomalies and the future stock returns. This was consistent with the research of Rezazadeh et al (2011).

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