



## STUDYING THE RELATIONSHIP BETWEEN DISCRETIONARY ACCRUALS AND SOME OF THE PERFORMANCE INDICATORS OF COMPANIES LISTED IN TEHRAN STOCK EXCHANGE

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### Abstract:

The fact of importance of measuring performance is recognized for organizations and it plays an important role in many organizations. Today, as we are in the information age, accounting profit is part of the information used by investors in risk assessment and returns on an accrual basis. The corporate performance evaluation is one of the most important issues for investors in terms of investment decision. The purpose of this study was to study the relationship between the voluntary accruals level and the performance indicators of companies listed in Tehran Stock Exchange. For this purpose, some performance indicators such as cash flow, return on assets, return on equity, price-to-profit ratio, and return on investment were measured. The research sample consisted of 102 Iranian stock exchanges during the years 2010-2014. The results of the research show that there is a significant relationship between discretionary accruals and operating cash flow and equity returns, and the market pricing of accruals is not affected by the external financing levels.

**Keywords:** accruals, discretionary accruals and non-discretionary accruals, operational cash flows, operating profit, return on assets, return on equity

### 1. Introduction

Accrual accounting profit is identified on an accrual basis. Usually, the use of an accrual basis results in a difference in reported operating profit with net cash flows from operations and the reporting of a series of accruals in financial statements. (Rasaeian and Hosseini, 2008). Accruals are derived from the difference between operating profit and cash flow from operating activities. Cash flows are usually immune to tampering and are mainly manipulated in profit, so accrual items, especially accruals that have a higher judgment and judgment, are subject to manipulation. (Bozorg Asl and Ghaffarpour, 2012).

Agency theory and ownership separation issues from management, justifies managers' opportunistic behavior in increasing their own wealth at owner's expense. High reliance on accounting figures creates a strong incentive for managers to manipulate profits in their favor. The incentives for managers to manipulate profits may be due to concerns about job security, contractual arrangements between managers and external stakeholders, personal benefits in rewards programs, or even to achieve predicted profits, and to meet market expectations. (Hassas Yeganeh, Sheeri et al., 2008).

The subject of this research is to investigate the relationship between optional accruals with some Performance indicators. In this chapter, a general look at the top level is explored. So, first, the research question is expressed. The purpose of this section is to get acquainted with the subject of the research in general and to understand its aspects scientifically. Then, the necessity of such an investigation will be discussed in the present circumstances. In the following, the assumptions of the research are defined and the scope of the hypothesis test is defined. At the end of the key words, the research will be operationally defined.

## **2. Description**

Companies use expert managers to control and direct their affairs. Shareholders provide their managers with resources and they decide on how to use these resources. As a consequence of ownership unbundling from management, owners are always concerned about the desirable performance of managers in using resources and creating value for the company and, consequently, increasing their wealth. In addition to shareholders, the firm's business performance for creditors is also important for deciding on the rate and rate of rating. Hence, in order to win the confidence of investors and creditors, an accurate assessment of the performance of companies in order to determine the value of their performance and their expectations of obtaining the appropriate returns from the profitable operation of the business unit should be provided. (Vadiei and Hosseini, 2012).

The accounting profit and its components are considered as information that is considered by decision makers. This figure is calculated based on accruals. Profitability can be reported based on the accruals approach if revenue and expenses occur. Undertaking does not necessarily identify incomes and expenses with the receipt and payment of cash. (Khajavi and Nazemi, 2005)

Part of the profit is cash accounting, that is, cash from operations of the company (cash flow) is within the profit and part of it is accruals (the difference between profits and cash flows). The accruals income section is far more relevant than its cash section in assessing the company's performance. The cash received during a financial period does not include relevant information because the cash identified has problems with "scheduling" and "matching" that could lead to an incorrect measurement of the firm's performance. In order to mitigate these problems, the accepted accounting principles in

this case have guidelines to increase the accuracy of measuring the firm's performance by using accruals to correct the problems of timing and reconciliation of the identification of cash flow in accounting profit. Accrued accounting items can be divided into two optional components. According to the above description, the main issue of the present research is whether there is a significant relationship between discretionary accruals and performance indicators? If there is a relationship between which performance measurement indicators, such as operating cash flow, asset return, price / profit ratio, have a stronger relationship with optional accruals?

## **2.1 Importance of research**

The significance of the subject can be examined in two respects:

### **2.1.1 Theoretical aspect**

Based on the theoretical concepts of financial reporting, the primary objective of the financial statements is to provide tabulated and classified information on the financial position, financial performance and financial flexibility of the entity to help the users of the financial statements in making economic decisions. Providing consistent and desirable information about the financial performance of business units has made application of the liability assumption in financial reporting inevitable. In other words, accruals can provide information about the company's performance, but the market reacts slowly to this information. Therefore, accruals components can be considered as indicators for determining the improvement or deterioration of the company. Due to the fact that it consists of two components, optional and optional, and only the optional part is subject to manipulation and profit management, the relationship between the amount of these items and the performance indicators of the company provides an appropriate insight to make economic decisions to investors. .

### **2.1.2 Applied aspect**

Because of the importance of profit as one of the most important criteria for evaluating performance and determining the value of enterprises, investors and other users of financial statements are bound to assess the quality of profit reported by enterprises. Since accounting profit in the framework of accepted accounting principles and in the accrual accounting system includes two parts of cash and accrual, many researchers believe that the quality of profit depends on the amount of cash components and profit accruals.

## **2.2 Research goal**

The overall objective of the study is to investigate the relationship between the amount of discretionary accruals and some of the performance indicators of listed companies in Tehran Stock Exchange. Sub-objectives of the research are as follows.

1. Determining the relationship between discretionary accruals and operating cash flows of companies;

2. Determining the relationship between optional accruals and return on assets of companies;
3. Determine the relationship between the amount of voluntary accruals with the price/ profit ratio of companies;
4. Determining the relationship between optional accruals and operating profit;
5. Determining the relationship between optional accruals and shareholders' equity returns;
6. Determining the relationship between optional accruals and the ratio of return on investment of companies.

### **2.3 Research questions**

The key question of the research is whether there is a relationship between the discretionary accruals and the corporate performance indicators? Regarding the main question of the research and considering the discussed issues, we would like to answer the following questions:

7. What is the relationship between discretionary accruals and corporate operating cash flow?
8. What is the relationship between discretionary accruals and return on assets?
9. What is the relationship between discretionary accruals with a P / E ratio?
10. What is the relationship between discretionary accruals and operating profit levels?
11. What is the relationship between discretionary accruals and return on equity?
12. What is the relationship between optional accruals with the return on investment?

### **2.4 Hypotheses**

Research shows that the high value of equity offers a strong incentive for executives to report profits to boost the market. In other words, profit management is a process that supports the final value of the economic unit. (Vadiee, Azimi Far, 2012). Therefore, the failure to accrue accounting system seems to be due to this view. Given the greater sensitivity of discretionary accruals to cash flows and the increase in the share of these items in hypothetical accounting earnings, the following will be developed and tested.

Hypothesis 1: There is a significant relationship between discretionary accruals and operating cash flows.

Hypothesis 2: there is a significant relationship between the discretionary accruals and the return on assets of the companies.

Hypothesis 3: There is a significant relationship between the amount of voluntary accruals and the P / E ratio.

Hypothesis 4: There is a significant relationship between the discretionary accruals and the operating profit level of the companies.

Hypothesis 5: There is a significant relationship between discretionary accruals and equity returns.

Hypothesis 6: There is a significant relationship between the discretionary accruals and the investment return ratio.

### **3. Research Methodology**

The research method is descriptive and correlational.

This research is applied in terms of purpose and attempts were made to investigate the effect of the amount of discretionary accruals on the performance indicators of the companies admitted to the stock exchange. The research method is descriptive-survey based on information gathering and the required data for testing its hypotheses were collected from financial statements of sample companies and Tehran Stock Exchange information.

#### **3.1 Statistical population**

The statistical population of the study included all companies listed in Tehran Stock Exchange that have been listed on the Stock Exchange since 2010 to 2014. In order to modify the above mentioned statistical society and to extract the sample, the following considerations and considerations are taken into consideration in the selection of companies.

1. It is not part of investment and intermediation companies.
2. The company's data for the years 2010 to 2014 is available.
3. The end of the fiscal year of the companies should be the end of March and during the said period, there was no change in the fiscal year.
4. The shares of the companies will be traded during each of the years of the research period and the end-of-period price will be available.

Finally, for data extraction, according to the correct sampling method, a statistical sample is selected from this community.

#### **3.2 Domain of research**

1. Spatial domain: To determine the statistical population, select the statistical sample and collect information and test the hypotheses, Tehran Stock Exchange.
2. Time domain: The time period for data collection and testing of assumptions from 2010 to 2014, which is a five year period.

#### **3.3 Data collection method**

In this research, library method was used to collect the required information. In this method, first, using library resources that includes books, journals, dissertations, articles and the Internet; preparatory studies and compilation of the literature chapter and theoretical framework of the research. Then, using the databases of the Tehran Stock Exchange, the organization's Internet site and software such as the Dadeh Novin Software, the necessary data were collected to test the hypotheses.

### 3.4 Descriptive Statistics

**Table 4.1:** Descriptive statistics of the variables used in the study

Property Variable	Mean	Median	Max	Min	SD	Coefficient of variation
Optional Accrual Items	0/122	0/121	1/147	-2/038	0/236	2/09
Operating cash flow	0/143	0/123	0/556	-0/283	0/13	1/02
Return on assets	0/137	0/119	0/627	-0/225	0/123	1/32
P / E ratio	15/363	6/54	1653	-47/2	82/009	5/41
Operating Profit	11/791	11/682	17/496	5/421	1/835	0/155
Return on equity	0/338	0/319	2/122	-2/88	0/307	1/91
Return on investment	0/178	0/155	0/639	0/001	0/119	0/952
Fixed asset	0/286	0/237	0/857	0/019	0/193	0/69
Size of the company	13/796	13/613	19/009	10/649	1/515	0/113
Leverage	0/631	0/638	2/184	0/090	0/218	0/409

In the theory of probability and statistics, the coefficient of variation in CV is a standard criterion used to measure the distribution of statistical data and derives from the division of the standard deviation into the mean. In other words, the coefficient of variation expresses the amount of dispersion per unit of the mean. This time is defined so that the mean is not zero. This value is missing next, so it is suitable for comparing statistical data of different units.

The standard deviation indicates the distribution of numbers around the mean. The higher the number, the greater the dispersion of the numbers. That is, the study group is unmatched in terms of the attribute, and, conversely, the smaller amount of standard deviation indicates the greater convergence of the group in terms of the attribute.

### 3.5 Test of hypotheses

In this part of the research, according to the tests carried out and also the analysis of the variance of the variance for the research model and the determination of the estimation method, we will estimate the model and test the hypotheses of the research.

#### 3.5.1 Results of model estimation and hypothesis testing

The results of model estimation by OLS method are described in the following tables.

Regarding Table 4.6, the coefficient of fixed assets as a control variable was not significant and was eliminated from the model. The P-value F test of the Hausman test is less than the acceptable level of error, so the constant effects method is used to estimate the model. Independent indebtedness of accruals is -0.16, but with a significant level of 0.000 at the 99 level percentage is significant. In the first hypothesis, it is predicted that the accruals have a significant negative effect on the operational flow. Also, the F statistic showed a significant mean of the coefficients of the model and the

Durbin Watson statistic with a 2.24 score, indicating no correlation between the components of the disturbance.

**Table 4.6:** Test results from the first hypothesis

Dependent variable: Operating cash flow			
$OCF_{it} = \alpha_0 + \beta_1 CA_{ijt} + \beta_2 LN\ Size_{it} + \beta_3 LEV_{it} + \beta_4 tangibility_{it} + \epsilon_{it}$			
Variable	Coefficient of variable	T statistic	Sig.
Discretionary Accrual Items	-0/16	-7/30	0/000
size of the company	-0/05	-3/56	0/000
Leverage	-0/11	-3/17	0/001
Intercept	0/90	4/66	0/000
R2	0/59		
Adjusted R2	0/48		
F	5/65		
Prob	0/000		
Durbin Watson statistic	2/24		
F Limer test	(0/00) 3/73		
Hausman test	(0/00) 37/04		

**Table 4.7:** Test results obtained from the second hypothesis

Associated variable: Return on assets			
$ROA_{it} = \alpha_0 + \beta_1 CA_{ijt} + \beta_2 LN\ Size_{it} + \beta_3 LEV_{it} + \beta_4 tangibility_{it} + \epsilon_{it}$			
Variable	Coefficient of variable	T statistic	Sig.
Discretionary Accrual Items	0/005	0/677	0/49
size of the company	0/019	5/18	0/000
Leverage	-0/36	-20/90	0/000
Fixed assets	-0/24	-15/24	0/000
Intercept	0/15	2/92	0/003
R2	0/94		
Adjusted R2	0/93		
F	66/66		
Prob	0/000		
Durbin Watson statistic	2/06		
F Limer test	(0/00) 7/16		
Hausman test	(0/00) 17/53		

The value of the F Limer test of the Hausman test is less than the acceptable level of error, so the fixed effects method is used to estimate the model.

Independent independent coefficients of accruals are 0.055, but with a significant level of 0.49, they are not significant at 95% level. In the second hypothesis, it is predicted that the accruals do not have a significant effect on return on assets. Also, the F statistic showed a significant mean of the coefficients of the Watson camera model

and model with a value of 2.06 that showed no correlation between the components of the disturbance.

**Table 4.8:** Test results obtained from the third hypothesis

Dependent variable: P / E ratio			
$P/E_{it} = \alpha_0 + \beta_1 CA_{ijt} + \beta_2 LN Size_{it} + \beta_3 LEV_{it} + \beta_4 tangibility_{it} + \epsilon_{it}$			
Variable	Coefficient of variable	T statistic	Sig.
Discretionary Accrual Items	0/51	0/54	0/58
size of the company	-0/44	-3/21	0/00
Leverage	3/44	2/73	0/00
Fixed assets	8/91	4/40	0/00
Intercept	9/78	4/75	0/00
R2	0/046		
Adjusted R2	0/038		
F	6/04		
Prob	0/000		
Durbin Watson statistic	1/54		
F Limer test	(0/06) 1/26		

The P-value of the F Limer test is greater than the acceptable level of error, so the zero assumption that the data is money is not rejected.

The independent variable coefficient of accruals is 51/0, but with a significant level of 0.58, they are not significant at 95% level. The third hypothesis predicts that the accruals do not have a significant effect on the P / E ratio. Also, the F statistic showed a significant mean of the coefficients of the model and the Watson camera statistic with a number of 1. 54. There was no correlation between the components of the disturbance.

**Table 4.9:** Test results from the fourth hypothesis

Dependent variable: operating profit			
$OP_{it} = \alpha_0 + \beta_1 CA_{ijt} + \beta_2 LN Size_{it} + \beta_3 LEV_{it} + \beta_4 tangibility_{it} + \epsilon_{it}$			
Variable	Coefficient of variable	T statistic	Sig.
Discretionary accruals	0/009	0/07	0/93
Size of company	1/11	31/25	0/000
Leverage	-1/90	-9/56	0/000
Fixed assets	-0/67	-2/76	0/006
Intercept	-2/25	-4/47	0/000
R2	0/70		
Adjusted R2	0/69		
F	264/86		
Prob	0/000		
Durbin Watson Statistic	1/54		
F Limer test	(0/00) 6/04		
Hausman test	(0/17) 6/40		



Considering the P-value of the F Limer test, the lower limit of the acceptable error level and the Hausman test are more than the acceptable level of error, the random effects method is used to estimate the model. Independent indebtedness of accruals is 0/009, but with respect to the significance level 93% are not significant at 95% level. In this hypothesis, it is expected that accruals do not have a significant effect on operating profit. Also, the F statistic showed a significant mean of the coefficients of the Watson camera model and model, with a 1.54 value, indicating no correlation between the components of the disturbance.

**Table 4.10:** Test results from the fifth hypothesis

Dependent variable: Return on equity			
$ROE_{it} = \alpha_0 + \beta_1 CA_{ijt} + \beta_2 LN Size_{it} + \beta_3 LEV_{it} + \beta_4 tangibility_{it} + \epsilon_{it}$			
Variable	Coefficient of variable	T statistic	Sig.
Discretionary accruals	-0/16	-3/82	0/000
Size of company	0/04	5/34	0/000
Leverage	-0/07	-2/09	0/037
Fixed assets	-0/09	-2/11	0/035
<b>Intercept</b>	<b>-0/13</b>	<b>-1/21</b>	<b>0/22</b>
AR(1)	0/17	2/31	0/02
<b>R2</b>	<b>0/23</b>		
<b>Adjusted R2</b>	<b>0/22</b>		
F	<b>10/75</b>		
j-statistic prob	<b>0/056</b>		
Durbin Watson Statistic	<b>1/67</b>		
Sargon statistic prob	<b>0/29</b>		

Independent variable of coefficients of accruals is -0.16, but with significance level of 0.000 in the 99% level, they are significant. In the fifth hypothesis, it is expected that the accruals will have a significant reverse effect on the return on equity. Also, the F-statistic showed a significant mean of the coefficients of the model and the Watson camera's score of 1.67, indicating no correlation between the components of the disturbance.

Meanwhile, if the Watson camera value is between 1.5 and 2.5, then we can conclude that there is no correlation between its offset sentences. If the Watson camera statistics are not between the two above, the correlation between the AR component is used to resolve it. According to Watson's camera statistics, in the early estimation of the model, it was determined that the above model correlates with the AR component used to solve it. So, we used the Generalized Torque Method (GMM). Also, the j-statistic significant level and the Sargan test are used to check the validity of the tools used and the model is used, with its zero hypothesis indicating the lack of correlation of the tools with the components of the disturbance.

**Table 4.11:** Test results from the sixth hypothesis

Dependent variable: return on investment			
$ROI_{it} = \alpha_0 + \beta_1 CA_{ijt} + \beta_2 LN Size_{it} + \beta_3 LEV_{it} + \beta_4 Tangibility_{it} + \epsilon_{it}$			
Variable	Coefficient of variable	T statistic	Sig.
Discretionary accruals	-0/002	-0/35	0/72
Size of company	0/02	4/61	0/000
Leverage	-0/29	-15/81	0/001
Fixed assets	-0/25	-12/52	0/000
<b>Intercept</b>	<b>0/12</b>	<b>1/94</b>	<b>0/052</b>
R2		0/92	
<b>Adjusted R2</b>		<b>0/90</b>	
<b>F</b>		<b>49/91</b>	
Prob		0/000	
Durbin Watson Statistic		2/08	
F Limer test		(0/00) 9/70	
Hausman test		(0/00) 13/88	

Due to the P-value, the F Limer test of the Hausman test is less than the acceptable error level, so the fixed effects method is used to estimate the model. Independent variable coefficient of accruals is 0.022, but according to the significant level, 0.72 are not significant at 95% level. In the sixth hypothesis, it is predicted that the accruals do not have a significant effect on the return on investment. Also, the F statistic showed a significant mean of the coefficients of the model and the Watson camera statistic with a value of 2.08, which showed no correlation between the components of the disturbance.

#### 4. Results of the test of research hypotheses

The questions and assumptions raised in this research are:

##### A. Research questions

1. Is there a significant relationship between the discretionary accruals and the cash flows of the companies?
2. Is there a significant relationship between discretionary accruals and return on assets of companies?
3. Is there a significant relationship between the amount of voluntary accruals and the P / E ratio?
4. Is there a significant relationship between discretionary accruals and operating profit levels?
5. Is there a significant relationship between discretionary accruals and return on equity?
6. Is there a significant relationship between the amount of voluntary accruals and the return on investment?

## B. Research hypotheses

1. There is a significant relationship between the discretionary accruals and the operating cash flows of the companies.
2. There is a significant relationship between the accruals and the return on assets of the companies.
3. There is a significant relationship between the amount of voluntary accruals and the P / E ratio.
4. There is a significant correlation between voluntary accruals and operating profit.
5. There is a significant relationship between discretionary accruals and equity returns.
6. There is a significant relationship between the amount of voluntary accruals and the ratio of return on investment.

## 5. Conclusion

In this chapter, after the introduction of empirical research, the descriptive statistics of the variables were studied, then the research hypotheses were tested using econometric models. According to the results of model estimation, the research hypotheses were considered. . According to the results of analyzing the hypotheses, it has been shown that there are negative and significant discretionary accruals at 99% level with operational cash flow and equity returns and at 95% level with asset returns, And P / E ratio, operating profit and return on investment ratio were not significant.

## 6. Results

The results of the hypothesis test are presented in Table 5.1.

**Table 5.1:** Summary of the results of the tests conducted to investigate the research hypotheses

Hypothesis	Interval (yrs)	Prob	Test result
There is a significant relationship between voluntary accruals and operating cash flows of companies	5	0/000	Confirmed
There is a significant relationship between voluntary accruals and corporate assets returns	5	0/49	Rejected
There is a significant relationship between the amount of accruals and P / E ratio	5	0/58	Rejected
There is a significant correlation between voluntary accruals and operating profit	5	0/93	Rejected
There is a significant relationship between the discretionary accruals items and the return on equity of the companies	5	0/003	Confirmed
There is a meaningful relationship between the amount of voluntary accruals and the ratio of return on investment	5	0/72	Rejected

According to the results of analyzing the hypotheses, it has been shown that there are negative and significant discretionary accruals at 99% level with operational cash flow and equity returns and at 95% level with asset returns, And P / E ratio, operating profit and return on investment ratio were not significant.

The results of the first hypothesis confirm the hypothesis, which shows that there is a significant relationship between the discretionary accruals and the operating cash flow of the companies. The results of the research hypothesis test (Vadiee and Azimifar (2012)) indicate that high valued companies will report more voluntary accruals this year than those with low valuation companies. And also, the inverse relationship between operating cash flows and voluntary accruals, despite being highly valued by high-rated companies, is higher than that of low valuation companies, but this difference is not significant at 5%.

The second hypothesis is not confirmed and its results show that there is no significant relationship between the discretionary accruals and the return on assets of the companies.

The third hypothesis is not confirmed. The results of this hypothesis show that there is no significant relationship between the amount of accruals and P / E ratios.

The fourth hypothesis is not rejected and the results of this hypothesis indicate that there is no significant relationship between the discretionary accruals and the operating profit of the companies. The results of Mashayekhi et al. (2005) show that corporate management, when reducing cash outflows from operating operations, which represents the poor performance of the entity, has increased its profits by increasing the amount of accrued accruals in order to offset this issue.

The results of the fifth hypothesis are confirmed. This hypothesis shows that there is a significant relationship between the discretionary accruals and the return on equity of the companies.

Finally, the sixth hypothesis of this research is also rejected, and the results show that there is not a meaningful relationship between the amount of voluntary accruals and the return on investment.

## 6.1 Suggestions

1. Due to the non-significant relationship between other criteria for assessing the performance of the accounting treatment checked with optional accruals, it is suggested that this relationship be reconsidered taking into account economic performance criteria such as economic value added, market value added
2. Considering the different methods used to define accrual items by different researchers, it is suggested that the relationship between optional and optional accruals with functional indicators should be investigated based on other models such as Angelo, Haley et al.
3. In this research, some of the control variables were considered, such as the size of the company, it is suggested that in future research; other variables such as industry, etc. should be controlled.

## 6.2 Research Limitations

1. Considering the fact that for choosing a company and a sample from Tehran Stock Exchange companies, the features mentioned in the third chapter are based, therefore, the generalization of the results of the research to the group of companies admitted to the stock exchange Tehran Securities which have a different characteristic to the specimen should be taken with caution.
2. The results of the research are interpreted according to the probable effects of other independent variables that affect the dependent variable but are not investigated in this research, such as inflation.

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