

The Impact of Audit Quality on Pricing of Earnings Components

¹Mohsen Keymanesh and ²Abbas Alimoradi Sharifabadi

¹Department of accounting, Najafabad Branch, Islamic Azad University, Najafabad, Iran

²Department of Accounting, Petroleum University of Technology, Tehran, Iran

Abstract: Accounting earnings and its components is considered such information that can be used by decision makers. The reliability of financial statements including profit, greatly depends on the quality of audit performed. Audit could play a prominent role in reducing disturbance in discretionary accruals by preventing opportunistic manipulation of accruals. So audit quality somewhat affect pricing of discretionary accruals. Accordingly the usefulness of discretionary accruals information will increase and as a result, the market positively prices earnings and its components. The results of investigating 80 companies among companies listed on Tehran Stock Exchange during the years 2008-2013 show that audit quality does not affect pricing of cash component of earnings and non-discretionary accruals but has significant and positive effect on the pricing of discretionary component of accruals. Based on these results it can be argued that the quality of the audit affects the earnings pricing solely via affecting the pricing of discretionary accruals.

Key words: Earnings management, pricing of accruals, discretionary component, audit quality, changes in discount rate

INTRODUCTION

In auditing literature, providing precise definition of earnings management is very difficult because the border between earnings management and financial fraud cannot be clearly determined. Also the structure of audit quality is composed of quantity and quality structures such as the ability of the auditors and professional components and why, it is difficult to measure. Since, many factors affect audit quality, determining a framework for explanation of audit quality is a matter of importance. De Angelo (1981) has provided a common definition of audit quality as the market evaluation. In fact, the market evaluation is: the possibility that auditor both discover important misstatements in the financial statements or auditee's system and report the discovered important misstatement. The possibility that auditor report the discovered important misstatement is related to the independence of the auditor.

The most important quantitative index of measuring the quality of the auditor is auditor size which these two have a direct relationship so that the auditor size is larger, the higher audit quality. Another quantitative indicator of measuring the quality of the audit, is the auditor's professional care and its ability to monitor, i.e., auditor tenure. The auditor tenure is more, his knowledge of the client and his expertise in that specific industry will be higher and result in enhancing the audit quality (Fakharmanesh, 2014).

Earnings management occurs when the manager uses his/her own personal judgment for financial reporting and do this with the aim of misleading shareholders about actual performance or to influence contracts which depend on audited digits (Healy and Wahlen, 1999). But Scott refers to earnings management as the company authority to select audit policy to attain some manager specific goals. Two main motivations for earnings management are encouraging shareholders to purchase stocks and increasing the market value (Kellogg and Kellogg, 1991). The ability to manage earnings arise from information asymmetry (DeAngelo, 1988). So there is a potential transfer of wealth from new investors to old investors which are creators of a domestic demand for earnings management (Fakharmanesh, 2014).

Based on commitment approach, in case of revenue realizations and occurrence of expenses the earnings can be reported and since on the base of accrual, necessarily identifying revenues and expenses are not along with receiving and paying cash and also forecasts and estimates are used in earnings calculation hence this question arise to what extent this digit is reliable when taking decision. The answer to this question is important from the sense that incorrect decision making due to insufficient and incorrect information leads to unfair allocation of resources (Khajavi and Nazemi, 2005).

Accounting earnings on the base of accrual consists of two parts. Part of the accounting earning is pecuniary; therefore resultant cash from company's operations is

inside this earnings and accruals (difference between earnings and cash flows) constitute another part of that. Accruals are composed of “discretionary” and “non-discretionary” also. Non-discretionary accruals are accounting adjustments to the company’s cash flows which have become mandatory by accounting standard-setting bodies (e.g., Securities and Exchange Commission, Financial Accounting Standard Board in US and/or Iran’s auditing organization). For example these institutions necessitate amortization of long-term assets in a systematic way, the valuation of inventories at minimum actual cost and net realizable value, valuation of obligations in financing lease to the present values of lease payments. Discretionary accruals are adjustments for company’s cash flows that are selected by management. Managers select discretionary accruals from the opportunity set of accounting accepted methods which are defined by accounting standard-setting bodies. For example managers can the approach of depreciation of long-term assets, they can delay or accelerate the delivery of inventories at the end of fiscal year, they can also share fixed overhead between goods sold and inventory (Rohollahi, 2013).

Literature on earnings management considers discretionary accruals as opportunistic that might cause destruction of the relevance and usefulness of the earnings information. To specify discretionary and non-discretionary accruals, accruals analyzing model has been developed based on regression (Jones, 1991). Discretionary component of accruals can contain useful information but can also be the reflection of some noises due to aggressive and opportunistic reporting by managers. Noise (disturbance) within the discretionary accruals is related inversely with usefulness of discretionary accruals; the slightest disturbance equals with higher useful information (Healy and Palepu, 1993).

Audit role in validating the company’s earnings information following the recent renewal of offering company’s earnings and big companies bankruptcy has gained considerable importance. The difference due to the audit quality shows itself as difference at the credit provided by auditors and the quality of their client’s earnings. Since, the audit quality has different dimensions and is inherently invisible, there is no particular audit characteristic which could be considered as an indicator of that. Some previous studies has used auditor’s reputation as an indicator of audit quality and have explored the relationship between reputation and earnings quality (Becker *et al.*, 1998; Reynolds and Francis, 2000). In addition, other researchers beside the reputation, have based their assumption such that the auditor industry specialization directly helps to the credit provided by the

auditor (Beasley and Petroni, 2001; Craswell and Francis, 1999). Evidence suggests that industry specialist auditors, will provide a more effective audit and structural changes in auditing firms in order to achieve the industry expertise suggests that industry expertise plays an important role in the audit quality (Habib *et al.*, 2014).

As The reliability of financial statements including earnings, greatly depends on the quality of the audit performed, it is important to understand whether the market at the time of earnings and its components valuation consider audit quality in its assessment or it does not care? Audit could play a prominent role in reducing disturbance in discretionary accruals by preventing opportunistic manipulation of accruals. So the quality of audit somewhat affect the pricing of discretionary accruals. Usefulness of discretionary accruals should be increased with an increase in audit quality. It is expected from high quality auditors to distinguish between information components of discretionary accruals and components of disturbances. Accordingly usefulness of discretionary accruals information will increase and as a result the market prices earnings and its components positively (Habib *et al.*, 2014).

In view of the above and having regard to the ambiguities exist about the aspects of relationship between audit quality and earnings pricing, this study aims to investigate the issue in Iran’s capital market to help the development of literature in the field of emerging markets and also to opine about the effective component of earnings in this regard. The rest of this article is presented in four main parts.

In the next section relevant researches are reviewed and research hypotheses are compiled. Then the research method used in this paper will be discussed. Part IV summarizes collected data and states hypothesis test results. The last part besides the conclusion of research findings, provides innovations, limitations and suggestions of the research.

Literature review: There are a lot of researches in accounting about the earnings management, earnings quality and earnings manipulation and it can be claimed that the saturation point is gained. The result of studies such as Dechow (1994) and Dechow and Ge (2006) states that accruals reduces existence disturbances in operational cash flows which have been created due to the changes in working capital levels. On the other hand, studies such as Sloan (1996) and Dechow and Dichev (2002) and Richardson *et al.* (2005) show that accruals respect to the cash flows is along with more subjectivism and judgment. As a result the commitment component of

earnings has a lower stability than the cash component. Another batch of investigations have addressed the relationship between accruals and stock returns. The result of these studies indicate a negative relation between accruals and future stock returns which is called accruals abnormality in accounting and financing literature (Hirshleifer *et al.*, 2009). Sloan (1996) ascribed this to the lower stability of accruals compared with cash component and stated that investors are pricing false the information within accruals. Although Khajavi and Nazemi (2005) surveying the impact of accruals on the quality of companies earnings found that companies stock returns are unaffected of accruals amount and its components while Ghaemi *et al.* (2008) by breaking accruals down into discretionary and non-discretionary components showed that companies stock returns are under the influence of accruals amount and its components. Kordestani and Roudneshin (2006) also showed that the cash component of accounting earnings have the predictability and explanatory power of the market value of the company however three commitment parts of accounting earnings, i.e., the changes in receivable accounts, changes in inventory and changes in payable accounts, do not have the predictability and explanatory power of the market value of the company.

Livnat and Zarowin (1990) found that companies which have more accruals have also negative abnormal returns and these companies have lower future earnings compared with companies which have more operating cash flows. Chan *et al.* (2006) also investigated the relationship between accruals and future stock returns, showing that investors when realize the low quality of company's earnings, adjust its stock prices proportional to this but the reaction is delayed. Papanastaspoulos *et al.* (2011) found that portfolios with high accruals and high volume of external financing activities, earn lower returns. The result of Fedyk suggests that there is a negative relation between accruals and future stock returns, but with the return of discretionary accruals on future periods, this negative relationship will be removed. Alimoradi and Tabari in a study, investigated the effect of membership in business groups on the relationship between earnings quality and its influencing factors and concluded that not only membership in business groups directly and as an independent factor is effective on the earnings quality but as a moderator variable through positive change in the nature of earnings and increasing audit quality, enhances the quality of company earnings. On the other hand the role of audit in several relations in accounting has been investigated and tested which mainly is outside the scope of this study. But about the related issue, two samples of

research work are mentioned as follows. Chambers and Payne (2008) in a study entitled "audit quality and accruals abnormality" found that companies with low audit quality significantly have accruals with low stability. They used criterion of audit independence for audit quality in this study. The results showed that portfolios with lower audit quality, earn higher returns than portfolios with higher audit quality. Habib and Jiang in a study examined the impact of earnings quality on the pricing of earnings and its components by the market in China. The findings of research suggests that earnings and its components is pricing positively by stock market earnings quality does not have increasing effect on the pricing of earnings and its components by market.

Hypotheses and variables: Based on the above arguments, in this study the following assumption arises:

First hypothesis: The quality of audit is ineffective on the relation between cash part of the operating earnings and pricing earnings by market.

The second hypothesis: The quality of audit is ineffective on the relation between non-discretionary component from commitment part of operating earnings and pricing earning by market.

The third hypothesis: The quality of audit is effective on the relation between discretionary component from commitment part of operating earnings and pricing earnings by market.

MATERIALS AND METHODS

In terms of development purpose and of research method, this research classified as descriptive correlational. To test these hypotheses, multiple regression model and combined data practices are used. Excel to perform necessary calculations for measuring the variables and Eviws 7 and Stata 12 to estimate the research patterns are also used.

Research model: In this study, for data analysis and hypothesis testing, the combined data and multivariate regression according to Habib *et al.* (2014) are used with the following model:

$$\begin{aligned} SAR_{i,t} = & \mu_0 + \mu_1 NDA_{i,t} + \mu_2 NDA_{i,t} + \\ & \mu_3 OCF_{i,t} + \mu_4 AUD_{i,t} + \mu_5 AUD_{i,t} * \\ & DA_{i,t} + \mu_6 AUD_{i,t} * NDA_{i,t} + \\ & \mu_7 AUD_{i,t} * OCF_{i,t} + \varepsilon \end{aligned}$$

Where:

SAR = Adjusted return based on the size of the stock of company i for the year t
 $Da_{i,t}$ = Discretionary accruals of company i in year t
 $NDA_{i,t}$ = Non-discretionary accruals of company i in year t
 $OCF_{i,t}$ = Operating cash flow of company i in year t
 $AUD_{i,t}$ = Audit quality of company i in year t

In this study, adjusted return is based on the size of the stock (SAR) of dependent variable and discretionary accruals, non-discretionary accruals, operating cash flow of independent variables and audit quality of moderator variable.

Adjusted future returns based on stock size (SAR): This variable based on the research of Habib and Jiang (2014) is adjusted return based on the size of the stock. Given that companies are required to publish their financial statements no later than four months after the fiscal year, therefore the calculation period of returns of each year is determined from fifth month after the fiscal year for 12 months. Also in order to control risk, stock returns should be adjusted in size. For this purpose, at first the companies on the basis of book value to market value at the end of 21 July are arranged in order from small to large. After this step, the sample companies must be divided into four quartiles. After determining of quartiles and calculating the monthly returns of companies, weighted stock returns geometric mean of each company in each quartile is calculated. Finally, in order to control the effect of size on monthly return of each company stock, adjusted return based on the size is calculated from Eq. 1:

$$SAR_{it} = \prod_{t=1}^m (1 + R_{it}) - \prod_{t=1}^m (1 + R_{st}) \quad (1)$$

Where

SAR = Adjusted return based on the size
 R_{it} = Stock return of company i at month t
 R_{st} = Weighted monthly returns of company i portfolio stocks that is in given portfolio

Discretionary Accruals (DA) and Non-Discretionary Accruals (NDA): To estimate discretionary accruals the model of Kothari *et al.* (2005) is used:

$$TACC_{it} = \alpha + \beta_1 \left(\frac{1}{TA_{it-1}} \right) + \beta_2 (DSALES_{it} - DAR_{it}) + \beta_3 PPE_{it} + \beta_4 ROA_{it} + \varepsilon_{it}$$

Where:

TACC = The total accrual obtained from difference between operating earnings and operating cash flows (have become isometric by total assets of the period beginning, i.e., have been divided by total assets)
 TA_{it-1} = Total assets of company i at year t-1
 $DSALES_{it}$ = Sales changes of company i at year t compared to year t-1 (have become isometric by total assets of the period beginning)
 DAR_{it} = Changes in receivable accounts of company i in year t compared to year t-1 (have become isometric by total assets of the period beginning)
 PPE_{it} = Property, plants and equipments of company i in year t (have become isometric by total assets of the period beginning)
 ROA_{it} = Return on assets of the company i in year t
 ε_{it} = Disturbing element of the model

Remains of the above model represents Discretionary Accruals (DA). Then discretionary accruals is calculated from the following equation:

$$NDA = TACC - DC$$

where, NDA is non-discretionary accruals.

Operating cash flow (OCF): This variable is obtained of the company's cash flow statement, operational activities section.

Audit quality (AUD): For calculating the audit quality, auditor specialization index in industry (IS) is used. Expertise of each institution will be calculated according to the industry of companies which are under investigation of the institute. Institutions will be determined as expert if more than half of the volume of their work is done in a particular industry. So one is assigned to the companies having industry-specific auditor and zero for others.

Population and sample: In this study, companies listed on the Tehran Stock Exchange is considered as the population. Sampling method for this study is systematic elimination, accordingly companies were selected which have had the following criteria:

- In order to information being comparable, the company's fiscal year is ended on 19 March

- Is not of financial intermediation companies (banks, investments and leasing)
- All required data of research be available for surveyed companies
- Company's stock exchange during the research period does not stop more than 3 months on the stock exchange

According to the above conditions and limitations, of the companies listed in Tehran Stock Exchange, a total of 80 companies have been selected which a total of 480 observation is obtained for 6 years.

RESULTS AND DISCUSSION

Research findings are presented in three sections namely descriptive statistics, determining the type of data and investigating regression assumptions and hypothesis testing.

Descriptive statistics: Descriptive statistics of research variables is provided in Table 1.

Test of hypotheses: In this study pannel data is used to estimate the research models. To distinguish between synthetic and panel data, F Limer test is used. The results show that to estimate the research pattern synthetic data practice should be used (Table 2).

The results of the studying classical linear regression assumptions represented residual being normal using Jarque Bera statistic, lack of co-linearity using individual correlation matrix between variables, lack of first-order autocorrelation using Durbin-Watson statistic and consistency of variances using Likelihood Ratio statistic (LR) which among the assumptions of the classical linear regression, variance consistency assumption is not established and to address this problem, the practice of Generalized Least Squares (GLS) regression was used to estimate the pattern. The results of hypotheses testing is provided in Table 3.

Test of firs hypotheses: The first hypothesis based on the lack of audit quality effect on the relationship between the

cash part of the operating earnings and priced earning by market (adjusted return based on the size of stock).

According to Table 3, Operating Cash Flow coefficient (OCF) does not have meaning, that is, cash component of the earning, i.e., cash flow is priced correctly. To check the lack of audit quality effect on pricing cash component of the earning, audit quality variable will be added to the operating cash flow. As can be seen in the Table, the t-statistic calculated for coefficient $AUD_{it} * OCF_{it}$ is 1.57. p-value is 0.13 and larger than 0.05 thus results show the positive and insignificant relationship of $AUD_{it} * OCF_{it}$ with stock return; representing the lack of audit quality effect on pricing cash component of the earning. So assuming the lack of audit quality effect on relationship between cash part of operating earnings and priced earning by market, the first subsidiary hypothesis is accepted.

Test of second hypothesis: Second hypothesis is based on the lack of audit quality effect on the relationship between non-discretionary component of commitment part of operating earnings and priced earning by market (adjusted return based on the size of the stock). According to Table 3, Non-Discretionary Accruals coefficient (NDA) does not have meaning, that is, non-discretionary component of accruals (commitment component of earning) is priced correctly. To investigate the effect of audit quality on non-discretionary accruals pricing, audit quality variable is added to the NDA. The t-statistic calculated for coefficient $AUD_{it} * NDA_{it}$ is 1.42. p-value is 0.15 and >0.05 thus results show the positive and insignificant relationship of $AUD_{it} * NDA_{it}$ with stock return; representing the lack of audit quality effect on pricing non-discretionary component of the accruals. So assuming the lack of audit quality effect on relationship between non-discretionary component of commitment part of operating earnings and priced earning by market, the second subsidiary hypothesis is accepted.

Test of third hypothesis: Third hypothesis is based on the positive effect of audit quality on the relationship

Table 1: Descriptive statistics of research variables, research findings

Variables	Symbol change	Number	Minimum	Maximum	Average	Median	Standard deviation
Cumulative stocks returns	SAR	480	-0.104	0.096	-0.006	-0.007	0.033
Discretionary accruals	DA	480	-0.047	0.041	0.003	0.001	0.085
Non-discretionary accruals	NDA	480	-0.042	0.005	0.002	-0.017	0.046
Operating cash flow	OCF	480	0.005	0.131	0.061	0.059	0.110
Audit quality	AUD	480	0.000	1.000	0.651	1.000	0.490

Table 2: Summary of F Limer test results for surveying the regression pattern estimation method

Results	p-value	Statistic
pattern synthetic data	0.68	0.84

Table 3: The results of regression pattern estimation using synthetic data

$$SAR_{i,t} = \mu_0 + \mu_1 NDA_{i,t} + \mu_2 NDA_{i,t} + \mu_3 OCF_{i,t} + \mu_4 AUD_{i,t} + \mu_5 AUD_{i,t} * DA_{i,t} + \mu_6 AUD_{i,t} * NDA_{i,t} + \mu_7 AUD_{i,t} * OCF_{i,t} + \varepsilon$$

Variable name	Variable symbol	Coefficient	Std. error	t-statistics	p-values
Constant	μ_0	0.0820	0.0120	6.76	0.000
Discretionary accruals	$DA_{i,t}$	-0.0037	0.0010	-3.68	0.000
Non-discretionary accruals	$NDA_{i,t}$	0.0120	0.0100	1.17	0.220
Operating cash flow	$OCF_{i,t}$	0.0210	0.0140	1.51	0.140
Audit quality	$AUD_{i,t}$	-0.0370	0.0080	-4.64	0.000
Audit quality interaction with discretionary accruals	$AUD_{i,t} * DA_{i,t}$	0.0001	2.9600	3.38	0.000
Audit quality interaction with non-discretionary accruals	$AUD_{i,t} * NDA_{i,t}$	0.0021	0.0015	1.42	0.150
Audit quality interaction with operating cash flow	$AUD_{i,t} * OCF_{i,t}$	0.0070	0.0045	1.57	0.130

$R^2 = 0.31$, Adjusted $R^2 = 0.21$, Durbin-Watson statistic = 2.27, F statistic of Fisher = 3.02, value of the error probability F-statistics of Fisher = 0.000

between discretionary component of commitment part of operating earnings and priced earning by market. According to Table 3 Discretionary Accruals coefficient (DA) is negative and significant that is discretionary component of accruals (commitment component of earning) is pricing incorrectly. Thus, companies having more discretionary accruals are priced excessive and companies with less discretionary accruals are priced less which follows the research of Sloan (1996) and Xie (2001). To investigate the effect of audit quality on the pricing of accruals, audit quality variable is multiplied at DA. According to Table 3 the t-statistic calculated for coefficient $AUD_{i,t} * DA_{i,t}$ is 3.38. P-value is 0.00 and larger than 0.05 thus results show the positive and significant relationship of $AUD_{i,t} * DA_{i,t}$ with stock return; representing the effect of audit quality on pricing of discretionary component of accruals. So, the null hypothesis that the coefficients are not significant is ejected and mutual hypothesis based on the effect of audit quality on the relationship between discretionary component of commitment part of operating earning and priced earning by market, third subsidiary hypothesis is accepted.

CONCLUSION

Accounting earning and its components is such information that is considered when decisions are taken by the people. This figure is calculated and identified on the basis of accruals. Based on commitment approach in the case of realization of incomes and occurrences of costs, the earning can be reported and since on the base of commitment, identifying earnings and costs is not necessarily along with receiving and paying cash and also forecasts and estimates are used in calculation of earning, hence the question arises to what extent this figure can be trusted when taking the decision. The answer to this question is important from the sense that incorrect decision making due to insufficient and incorrect information leads to unfair allocation of resources. Audit

role in validating the company's earnings information following the recent renewal of offering company's earnings and big companies bankruptcy has gained considerable importance. So in this study, audit quality impact on pricing of earning and its components for companies listed on the Tehran Stock Exchange was investigated. Research findings show that audit quality does not affect pricing of cash component of earning and non-discretionary accruals. In addition, research findings suggest that audit quality has positive and significant impact on the pricing of discretionary component of accruals. It can be concluded from the findings of this study that the greatest risk in the ability to manipulate earnings is related to the non-discretionary component and therefore monitoring and controlling systems including audit should have maximum focus and sensitivity to these parts.

This study, like most previous research has been limited. Using systematic elimination method for sampling and removing some industries from statistical sampling, limits generalizing the results to all industries. Time domain of current study from 2008-2013 suggests that generalizing the results to the years before 2008 and after 2013 should be cautious. In addition, data derived from financial statements of companies is not adjusted in term of inflation. In the case of adjusted data it may be obtained different results than current results.

In this study, to measure discretionary accruals, the model of Kothari *et al.* (2005) was used. It is suggested that in future studies other measurement models such as modified model of Jones be used, in this study, to measure the audit quality, the criterion of auditor specialization in industry is used; it is suggested that in future studies other audit quality evaluation criteria such as the size of audit and auditor tenure be used. In this study, only the companies listed in Tehran Stock Exchange were examined. Other interested researchers can do this for over the counter and non-exchange companies too.

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