

Study of the Effect of Management Ability on Earnings Quality

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Abstract

This research investigates the relationship between management ability and earnings quality in the listed companies on Tehran Stock Exchange. Management ability is defined as the ability of managers in concentrating their ability to enhance the efficiency of a company's resources. The research data, using the statistical population, includes 94 companies listed on Tehran Stock Exchange. These companies were analyzed in 8 different industries during the period of 2008 to 2013 by using pooled data and ordinary least squares regression. The research includes three hypotheses in which the relationship between management ability, as an independent variable, and three dependent variables, i.e. earnings restatement, earnings persistence, and accruals quality (earnings quality measures), is studied. The results indicate the confirmation of the hypotheses and that there is a positive significant relationship between management ability and earnings quality.

Keywords: Management ability, earnings quality, earnings restatement, accruals quality, earnings persistence.

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Introduction

Management is the process of an effective use of human resources and material facilities to meet organizational objectives. This process is realized by performing managers' essential functions, i.e. planning, organizing, guiding, leading, controlling, and by considering the value system governing the organization. Efficient managers are able to use the existing resources in a better way to meet the organizational objectives. The final objective of economic units is to get more earnings. Management ability in employing the company's resources for getting more earnings is of great importance. In recent decades, the question of "earnings quality" has been considered by many researchers with an effort to evaluate earnings quality through achieving a logical and appropriate model and identifying effective factors thereof. Previous literature on earnings quality has mostly focused on companies' unique characteristic including the firm size, independence of the Board of Directors, aspects of corporate governance, guiding principles, and earnings persistence without, however, any attention towards unique characteristic of managers and their effect on earnings quality of the companies under their control.

The authority of managers in application of the principle of revenue recognition, matching costs with revenues, and using estimates and projections are among the factors that affect earnings quality. According to the agency theory, on the one hand, and because of their greater awareness of the company, it is expected that providing information is carried out in such a way that could better reflect the situation of that company. On the other hand, for reasons such as survival in the company, receiving rewards, and other factors, a manager may, intentionally or unintentionally, misrepresent the situation of their company. Therefore, earnings quality is affected by financial reporting basics and the discretion of their managers.

Since the major part of the literature on earnings quality in Iran investigates the relationship and effect of companies' unique characteristics, without paying attention to special effects and characteristics of their managers on the earnings quality of companies under their management, we will see in this research whether or not the ability of managers affects the earnings quality of the companies under their supervision. It is expected that managers with a higher innate ability and more awareness and knowledge on their company and the type of industry in which they work are more able to combine information for prospective reasonable predictions to report earnings with a higher quality. The results of the research will be important for the Board members of companies, especially in designating the CEO with regard to the costs and benefits of managers.

Theoretical basics and literature review

Management ability

An important factor that can lead a person to success is his/her individual ability and capability. Guiding and managing is not an ability that can be acquired only by education. Rather, it is an internal characteristic and capacity that any person should have. In fact, there are many individuals who inherently have this characteristic.

The managers' ability is defined as their capability and efficiency in guiding and leading an organization and/or to achieve a certain goal through having resources available. A manager will need less ability to get the desired result if these resources are more and better and if they are accessible in a more comfortable way. On the contrary, with the lack of resources and facilities, a manager shall go through a harder way and use more ability. A capable manager needs to develop himself/herself, depending on the type of functions and activities he/she performs, so that he/she is able, when necessary, to take proper and accurate decisions as much as possible with regard to existing conditions and by correct use of its accumulated resources. In this way, it will be able to meet the organizational needs in the long run and take effective actions in realizing its objectives (Teyrani, 2006). Management literature has already presented different categorizations of managers' abilities as shown in Table 1.

Table (1) Comparison of management behavioral theories on the abilities required by managers (Farahi Bouzanjani, 2005)

Dainty and Anderson (1998)	Personal ability	Communicative ability	Leadership ability	-	-	-	-
Hellriegel, Slocum, and Woodman (1998)	Stimulation; Innovation and change	Managing people and tasks	Communicative ability	Self-management	-	-	-
Greenberg and Baron (1997)	Intellectual ability	Cognitive ability	Memory ability	Physical ability	-	-	-
Huchenski and Bohanan (2001)	Ability Productivity Thinking	Ability of spatial relationship	Classification ability	Organizing ability	-	-	-
Castle and Simon (1994)	Cognitive ability	Social ability	Technical ability	Organizational ability	Adaptability	Ability to achieve target	Luckiness
Asemipoor (1992)	Intellectual and mental abilities	Physical ability	Scientific ability	-	-	-	-
Loehr and Schwartz (1998)	Physical ability	Emotional ability	Mental ability	Psychological ability	-	-	-
Farahi Bouzanjani (2002)	Intellectual and mental ability	Physical ability	Psychological mental ability	Scientific ability	-	-	-

Earnings quality

Over the past three decades, earnings quality has been of particular interest to researchers, and efforts have been made to reach a reasonable and valid method to evaluate earnings quality and identify factors affecting it (Desai et al, 2009). Earnings

quality can be divided into three categories of earnings persistence, levels of accruals, and earnings reflecting relevant economic transactions. Earnings persistence means the repeatability of current earnings. The more is the earnings persistence, it suggests that the company is more able to preserve its current earnings, and it is assumed that the company's earnings quality is higher. The level of accruals is inversely correlated with the earnings quality, because the higher is this level, the less is the earnings quality. Also, the latter will increase if the reported accounting earnings reflect actual economic transactions (Mc Nichols, 2002).

In recent years, particularly as a result of recent financial scandals, earnings quality has become a growing concern. Earnings quality is a concept that has different aspects, and therefore, there is no comprehensive definition of earnings quality. Different definitions and different measures have been put forward on earnings quality, some of the most important of which are as follows:

For Revsine (2002) consider that earnings are of higher quality when they are sustainable.

Richardson et al (2001), earnings quality is the degree of stability of earnings performance in future period. Beneish and Vargus (2002) state that current earnings should be a good indicator of future earnings. Penman and Zhang (2002) define earnings quality as the ability to predict the future earnings. Schipper and Vincent (2003) identify earnings quality as associated with the definition of earnings developed by Hicks, i.e. as the extent to which reported earnings correspond to economic income as defined by Hicks.

In general, there are the four methods to assess earnings quality: (1) the method based on the relationship with stock value: in this method, the relationship between different amounts of earnings and stock (market) price is measured by the regression technique. The more the correlation coefficient is adjusted, the more the value relevance of earnings will be (Barth et al, 2001); (2) the method based on information content: in this method, the relationship between price changes or stock returns with earnings unexpected levels or changes is measured using regression. The closer an adjusted correlation coefficient to one, the greater information load it will show; (3) the method based on prediction ability: in this method, it is of importance that previous earnings amounts can predict future earnings. The smaller the absolute value of average prediction error, the more able the same value will have to predict; and (4) the method based on economic earnings: in this method, mostly the measures based on capital cost prediction are considered. It is inferred that these figures have a higher quality than accounting earnings. Economic value added is a measure that relies on this method.

Literature review

Aier et al (2005) investigated the relationship between financial expertise of managers and restatements based on 456 company-year observations over 1997-2002 in the US. They found out that the companies with more experienced financial managers are less likely involved with restatement tasks. Demirjian et al (2006) studied the relationship between managers' ability and earnings quality from 1989 to 2001 based on 55837

company-years observations in the US through measuring managerial ability and using frontier analysis technique and separation of the individual effects produced by management from those of the company, and also by evaluating the status of managers in all companies. Their findings show that earnings quality measured by the level of cash-flow-based accruals is increased by managerial ability. Their findings are also more consistent with the assumption that more capable managers are more able to estimate accruals. Francis et al (2004) examined the relationship between earnings quality and CEO reputation having been measured by number of business press articles mentioning each CEO. For a sample of about 2,000 company-year, observations from 500 Services & Production companies over 1992–2001 were analyzed and it was found that the volatile operating environments or other innate characteristics of the company are causing the lower earnings quality, not managerial actions. Demirjian et al. (2013) studied the relationship between managerial ability and earnings quality. They found out that earnings quality is positively associated with managerial ability. Also, they particularly found out that more capable managers are better able to estimate accruals, which results in a more precise measure of earnings.

In a study, Mashayekh and Esmaeili (2006) investigated the relationship between earnings quality and certain aspects of corporate governance including the ownership rate of the Board of Directors and the number of nonexecutive directors of the Board of Directors of 135 companies listed on Tehran Stock Exchange during 2002-2004. The results indicate that there is no relationship, at a 95% confidence, between earnings quality, ownership rate of the Board members and the number of nonexecutive directors of the Board; in addition, the number of nonexecutive directors and the ownership rate of the Board members, considered as mechanisms of corporate governance, haven't any important role in improving the earnings quality of the companies listed on Tehran Stock Exchange. Ebrahimi Kordlar and Aarabi (2010) analyzed the relationship between ownership concentration and earnings quality in Tehran Stock Exchange using a sample of 148 companies from 2002 to 2006. For their study, they used ownership concentration measures inside and outside the organization and also quality measures of the financial information set out in theoretical frameworks of accounting standards (relevance and reliability) in order to evaluate the effect of ownership concentration on earnings quality. The results of their study suggest that ownership concentration outside the organization leads to an improved earnings quality, while they did not get convincing evidence in connection with the effectiveness of stakeholders on earnings quality inside the organization. In a research, Arab Salehi and Ziaei (2010) investigated the relationship between earnings quality and some characteristics of the Board of Directors including the CEO and chairman of the company's Board, the Board's nonexecutive directors, the size of the Board of 156 companies listed on Tehran Stock Exchange during 2003-2007. The results of their research indicate that, at a 95% confidence level, there is not any relationship between earnings quality and the posts of managing director and chairman of the Board of Directors. But, there is a relationship between the earnings quality and the ratio of the Board's nonexecutive directors and the size of the Board. Testing the research hypotheses showed that, in general, the characteristics of the Board of Directors of companies, as a part of the mechanism of corporate governance, have a significant effect on the earnings quality of the companies listed on Tehran Stock Exchange. In a research, Dehghani (2011) analyzed the relationship between the ability to manage and the quality of earnings in Tehran Stock Exchange for the period between 2004 and 2009.

The results of their research suggest that, at an error level of 5%, there is a significant positive relationship between management ability (independent variable) and earnings quality. In other words, more capable managers indicate a higher earnings quality. Mansourfar et al (2015) examined the effect of management ability on earnings quality during the financial period of 2002 to 2011. They measured the management ability through the DEA method and earnings quality using three measures of earnings restatements, earnings persistence, and accruals quality. The results of their research indicate that management ability has a significant positive effect on earnings quality and, further, leads to more persistent earnings and accruals of higher quality. Based on the analysis performed, no significant relationship was found between management ability and earnings restatement.

Research Methodology

This is a functional research, in terms of objective, and a correlative one, in terms of nature. It is considered a regression analysis among different correlative researches. It can also be classified as a post-event research given actual and historical data used in it.

The statistical population of the research was composed of all companies listed on Tehran Stock Exchange from March 20, 2008 to March 19, 2013. It should be noted that the companies must have been listed before 2008 and have not changed their financial year. In addition, data of the following year were needed to calculate certain variables such as earnings for the coming year and operating cash flow (CFO_{t+1}). And to calculate variables such as sales changes ($\Delta Sales$), data of the previous year were required, while for calculating earnings volatility (Earn Vol), data of two previous years were necessary. Therefore, necessary data for years 2006 to 2013 were collected, although, the effective period for this research, was a 5-year period from 2008 to 2013 with a sample consisted of 94 companies active in 8 different industries as depicted in Table (2).

Table (2) The number of sampled companies per industry

No.	Industry	No. of companies
1	Automotive and parts manufacturing	12
2	Basic metals	10
3	Cement, plaster and lime	15
4	Non-metallic mineral products	9
5	Machinery and equipment	11
6	Pharmaceutical products	10
7	Chemical products	15
8	Food products	12
	Total	94

To collect the data in the fields of research theoretical framework and its history, Latin and Persian books, dissertations, articles, databases and websites were used. The statistical data were obtained from financial statements of the companies listed on Tehran Stock Exchange through a library method. These financial statements were taken from the databases of Tehran Stock Exchange. The research data analysis and hypotheses testing were made using Excel and SPSS. First, the information provided by these

databases were categorized and sorted in Excel, and then, they were transferred to SPSS to perform statistical tests on them. The statistical knowledge used in this statistical analysis included descriptive statistics to describe and present statistical characteristics of variables and parameters, and inferential statistics consisting of the estimation of coefficients.

Research hypotheses

According to the literature and theoretical foundations and previous literature and in order to answer to the research questions, three hypotheses were formulated as follows:

H₁: There is a significant negative relationship between the managers' ability and earnings quality through the restatement measure.

H₂: There is a significant positive relationship between the managers' ability and earnings quality in terms of earnings persistence.

H₃: There is a significant positive relationship between the managers' ability and earnings quality based on the quality of accruals.

Research model and measurement of variables

Earnings quality was the *dependent variable* in this research. The three following measures were used to quantify this variable:

1. *Earnings restatements:* Earnings restatement score was recoded as 1 if the firm restated; earnings 0 otherwise. Then, the ratio of the number of restatement observations to total number of observations was calculated for each company. The less is this ratio in a company, the less will be restatements in that company. As a result, earnings quality will be higher.

E Restatement = observations with restatement of earnings / total observations
Model (1)

2. *Earnings persistence:* Earnings persistence is measured by estimating Model (2). The higher is the correlation between the earnings for the current year with that of the coming year, the more stable will be the earnings for the current year. a_1 is the measure of correlation obtained from testing Model (2) at each industry.

$$Earnings_{i,t+1} = a_0 + a_1 Earnings_{i,t} + e_{it} \quad \text{Model (2)}$$

3. *Accruals quality:* The third earnings quality measure used in this research was the quality of accruals. The higher is this measure, the higher is earnings quality. Earnings accruals are of high quality when having been cashed through this method. In other words, they predict future operational cash flows. Dechow and Dichev (2002) used this measure to evaluate earnings quality. The quality of earnings accruals was measured by estimating the Model (3). The higher is the correlation between accruals for the current year and the operational cash flows for the coming year, the higher the quality of these accruals will

be. The correlation measure is the determination coefficient (R²) obtained from testing Model (3).

$$CFO_{i,t+1} = a_0 + a_1 Accruals_{i,t} + e_{it} \quad \text{Model (3)}$$

Accruals are equal to the difference between net incomes and operating cash flows, which can be calculated using equation (4).

$$Accruals = Earnings - CFO \quad \text{Model (4)}$$

Independent variable: Efficiency is an indicator that measures the management ability in a unit for optimal use of inputs to produce outputs. Efficiency is defined as the ratio of output to input. The higher is this ratio, the more will be the efficiency. Equation (5) was used to measure the overall efficiency of the company's resources.

$$TotalEfficiency = \frac{Sales}{GOGS + SAExp + INV + PPE + IntngA} \quad \text{Model (5)}$$

where, GOGS, SAExp, INV, PPE, and IntngA represent, respectively, the cost goods sold, selling and administrative expenses, inventories, net fixed assets, and intangible assets.

The total efficiency of the company, obtained from equation (6), depends on factors such as firm size, book-to-market value, free cash flow and the number of branches or subsidiaries (complexity of operation). This regression equation is shown in Model (6). It is obvious that the sales volume is higher in larger sized companies with a greater market value. As a result, they are more efficient.

$$Firm\ Efficiency = \beta_0 + \beta_1 Ln(TAssets)_t + \beta_2 BM_t + \beta_3 FCF_t + \beta_4 Ln(Seg)_t + \varepsilon_{it} \quad \text{Model (6)}$$

In this model, the left hand side variable represents the unique corporate efficiency, and *TAssets*, *BM*, *FCF*, and *Seg* represent, respectively, firm size, book-to-market value, free cash flow, and the number of branches. After testing the regression Model (6), the relationship between the corporate efficiency and the above-said factors is determined by residues from the model estimation.

Control variables

Firm size is calculated using the logarithm of the total assets of the company at the end of the fiscal year.

BM indicates the ratio of the book value of equity to the market value of equity.

Free cash flow is calculated as follows:

Free cash flow = Operating earnings + depreciation expense - interest expense -

income tax -dividend

Reporting segments are calculated using the natural logarithm of the number of reporting segments (branches) (the number of these segments can be derived from the notes accompanying the financial statements).

The variables used in the research and their symbols are as shown in Table (3).

Table (3) Variables used in the research and their abbreviations

No.	Variable	Variable symbol	Type of variable
1	Earnings Persistence	EPersist	Dependent variable
2	Earnings Restatement	Erestat	Dependent variable
3	Accruals Quality	AccQual	Dependent variable
4	Managerial Ability	MgrlAbility	Independent variable
5	Firm Size	FSize	Control variable
6	Earnings Volatility	EarnVol	Control variable
7	Cash Flow from Operations	CFO	Control variable
8	Operating Cycle	OperCycle	Control variable
9	Loss	Loss	Control variable
10	Auditor Quality	Auditor	Control variable
11	Change in sales revenue	ΔSales	Control variable
12	Return on Assets	ROA	Control variable

Models to test the research hypotheses in order to examine the relationship between the efficiency of managerial ability and earnings restatement, earnings persistence and accruals quality (earnings quality measures) were developed as models 7 to 9. The latter were used to test the hypotheses 1 to 3, respectively.

$$Erestat_{t,i} = \alpha_0 + \alpha_1 \text{MgrlAbility}_t + \alpha_2 \text{FSize}_t + \alpha_3 \text{CFO}_t + \alpha_4 \text{ROA}_t + \alpha_5 \Delta\text{Sales}_t + e_{it} \quad \text{Model (7)}$$

$$\begin{aligned} \text{Earnings}_{t+1,i} = & \alpha_0 + \alpha_1 \text{Earnings}_t + \alpha_2 \text{Earnings}_t * \text{MgrlAbility}_t + \alpha_3 \text{FSize}_t + \alpha_4 \\ & \text{EarnVol}_{t-3,t} \\ & + \alpha_5 \text{CFO}_t + \alpha_6 \text{OperCycle}_t + \alpha_7 \text{Loss}_t + \alpha_8 \text{Auditor}_t + \alpha_9 \Delta\text{Sales}_t + e_{it} \quad \text{Model (8)} \end{aligned}$$

$$\begin{aligned} \text{CFO}_{t+1,i} = & \alpha_0 + \alpha_1 \text{Accruals}_t + \alpha_2 \text{Accruals}_t * \text{MgrlAbility}_t + \alpha_3 \text{FSize}_t + \alpha_4 \text{EarnVol}_{t-3,t} \\ & + \alpha_5 \text{CFO}_t + \alpha_6 \text{OperCycle}_t + \alpha_7 \text{Loss}_t + \alpha_8 \text{Auditor}_t + \alpha_9 \Delta\text{Sales}_t + e_{it} \quad \text{Model (9)} \end{aligned}$$

In these models:

MangAblity = Efficiency of management ability;

Earnings_{t+1} = Net profit for the coming year (divided by total assets in the first year for data homogenization);

$Earnings_t$ = Net profit in the current year (divided by total assets of the first year to homogenize the data);

$FSize_t$ = Firm size (calculated by the natural logarithm of total assets);

$EarnVol_t$ = Earnings volatility (calculated by the earnings standard deviation in the past three years);

CFO_t = Operating cash flow (divided by total assets in the first year for data homogenization);

$OperCycle_t$ = The length of time of the company's operating cycle (calculated by equation (10)).

$$\Delta WC = 360 / (\text{Sales} / \text{Average AR}) + 360 / (\text{COGS} / \text{Average Inventory}) \quad \text{Model (10)}$$

In equation 10, *Sales*, *Average AR*, *COGS* and *Average Inventory* represent, respectively: sales volume, average accounts receivable, cost price of sold goods, and average inventory.

$Loss_t$ = Loss (the firm is recorded as 1 if it suffers a loss, 0 otherwise);

$Auditor_t$ = Size of an audit firm (that equals 1 if a firm's auditor in the current year is an audit organization, and 0 otherwise);

$\Delta Sales_t$ = Ratio of Sales change in the current year;

$Erestat_t$ = Earnings restatement;

ROA_t = Return on assets (calculated by the ratio of net profit to total assets);

CFO_{t+1} = Operating cash flow in the coming year (divided by total assets in the first year for data homogenization);

$Accruals_t$ = Total accruals (calculated by the difference of net profit and operating cash flow).

Findings

Descriptive statistics

Descriptive statistics of the variables used in this research include mean, median, maximum, minimum, and standard deviation as shown in Table 4.

Table 4 – Descriptive statistics of the research variables

Variables	Model	Mean	Median	Maximum	Minimum	Standard deviation
Net profit of the current period	Earning _t	0.217	0.226	0.574	-0.124	0.192
Net profit of the coming year	Earning _{t+1}	0.236	0.243	0.623	-0.142	0.253
Restatement	Erestat	0.382	0.361	0.879	0.164	0.098
Accruals	Accruals	0.089	0.091	0.378	-0.021	0.094
Efficiency of management ability	MgrlAbility	0.165	0.147	0.427	-0.089	0.089
Firm size	FSize	5.492	5.327	7.289	4.116	1.176
Fluctuating earnings	EarnVol	0.120	0.119	0.608	0.006	0.042
Operating cash flow	CFO	0.114	0.119	0.413	-0.033	0.142
Operating cycle	OperCycle	0.064	0.083	0.691	-0.489	0.120
Loss	Loss	0.431	0.418	1.000	0.000	0.089
Audit quality	AuditQ	0.384	0.393	1.000	0.000	0.027
Changes in sales revenue	ΔSales	0.248	0.234	0.784	-0.132	0.216
Return on assets	ROA	0.249	0.267	0.499	-0.092	0.189

Correlation Coefficients Test

To determine the relationship between variables, Pearson's correlation coefficient was used. The correlation between the variables is as shown in Table 5.

Table 5: Correlation coefficients between variables

ROA	ΔSales	Auditor	Loss	OperCycle	CFO	EarnVol	FSize	MgrlAbility	Accruals	Erestat	Earning _{t+1}	Earning _t	Variables
												1	Earning _t
											1	0.11	Earning _{t+1}
										1	0.28	0.06	Erestat
									1	0.23	0.00	0.09	Accruals
								1	-0.06	-0.22	0.32	0.14	MgrlAbility
							1	0.17	0.11	0.13	0.14	0.17	FSize
						1	-0.06	0.00	-0.09	0.16	0.12	0.02	EarnVol
					1	0.06	0.16	0.08	-0.42	-0.04	0.02	0.01	CFO
				1	0.06	0.00	-0.03	-0.06	0.04	-0.01	0.00	0.00	OperCycle

			1	0.00	-0.04	0.12	0.09	-0.12	0.22	0.34	-0.01	-0.06	Loss
		1	-0.04	0.02	0.00	0.06	0.15	0.26	-0.07	0.11	0.21	0.09	Auditor
	1	0.01	0.22	0.16	0.01	0.14	0.02	0.14	0.16	-0.08	0.08	0.02	ΔSales
1	0.08	0.00	0.11	0.21	0.34	0.21	0.00	0.16	0.00	0.23	0.04	0.08	ROA

* Color shadings are for 1% or 5% significance level

Reliability test of variables

After choosing the appropriate estimation model, we have to make sure the variables are reliable and the regression is not false. The reliability of the variables means that the mean and variance of the variables over time and the covariance of variables in different years has been stable. As a result, the use of these variables in the model does not create any false regression. Levin and Lin's test (1997) was used to evaluate the reliability of these variables during the research period. In this test, the null hypothesis indicates the presence of the unit root or the lack of reliability of variables. The results of testing the unit root of pooled data are as illustrated in Table 6.

Table 6 Results of testing the reliability of the independent and dependent variables

Accruals _t	CFO _{t+1}	Earnings _{t+1}	Erestat _t	MgrlAbility _t	Variable Test	
-4.89 0.001	-12.41 0.000	-30.05 0.000	-6.45 0.000	-38.61 0.000	<i>p-value</i>	(LL)
					<i>statistic</i>	

According to the null hypothesis in the LL test, the presence of a unit root is rejected for all variables. Because, the statistic calculated at 0/01 level was significant. Therefore, the independent and dependent variables had the necessary reliability during the research period. After choosing the appropriate model to test hypotheses and evaluate the reliability of the latter, the relationship between these variables was investigated through experimental models.

Results of testing the research hypotheses

H₁ Testing

H1 evaluates the effect of managers' ability and earnings restatement. In this hypothesis, earnings restatement is the dependent variable, and the management ability to increase efficiency is the independent variable. The results of H1 testing are as shown in Table 7.

Table 7 Results of H₁ Testing Model

Erestat _{t,i} = α ₀ + α ₁ MgrlAbility _t + α ₂ FSize _t + α ₃ CFO _t + α ₄ ROA _t + α ₅ ΔSales _t + e _{it}			
Description	Coefficient	t-static	p-value
Constant coefficient	1.0076	8.7988	0.0000
MgrlAbility	-0.3126	-4.6652	0.0114
FSize	0.4236	6.5982	0.0000
CFO	-0.0912	-3.0672	0.0821
ROA	0.0109	4.7688	0.0026
ΔSales	-0.1286	-2.3158	0.2240
R-squared	0.2994		
Adjusted R-squared	0.2839		
F-static (p-value)	4.4129 (0.000)		
DW	2.2142		
(p-value) Chow test statistic	1.2436 (0.1806)		

The result of the Chow test (*ChowStatic*=1.2436 and *p-value*=0.1806) indicated that it is appropriate to use the pooled data among the research data to estimate the first model. In this method, all the data during the research period are pooled and estimated by an ordinary least square regression. As shown in Table 7, statistic F (Fisher) related to the estimation model is significant at a confidence level of 99% (*F*=4.4129 and *p-value*=0.000). Therefore, the first research model is significant in general and independent and control variables are able to explain the earnings restatement. In addition, the adjusted coefficient of determination derived from the model test was 0.2839. This value shows that 28% of the changes on the dependent variable, i.e. earnings restatement, can be explained by independent and control variables. Durbin-Watson test statistic is 2.2142. Considering that the statistic is between 1.5 and 2.5, the existence of an autocorrelation in the error values of the first model is rejected.

According to the results, the statistic *t*, related to the desired variable MgrlAbility, and its significance level (*p-value*) is -4.6652 and 0.0114, respectively. Given that this value is less than the error level of 0/05, the model's variable coefficient is significant and the significant relationship between the management ability and earnings restatement is confirmed at a confidence level of 95%. The coefficient of the said variable is negative. So, an increased variable of management ability leads to a decreased earnings restatement. Therefore, the first hypothesis is confirmed.

H₂ Testing

The H₂ of the research evaluates the effect of management ability on earnings persistence. Results from testing the second hypothesis are as shown in Table 8.

The result of the Chow test (*ChowStatic*=0.6438 and *p-value*=0.2165) indicated that it is appropriate to use pooled data among the research data to estimate the first model. In this method, all the data during the research period are pooled and estimated by an ordinary least squares regression. As shown in Table 8, statistic F (Fisher) related to the estimation model with is significant at a confidence level of 99% (*F*=9.6127 and *p-value*=0.000). Therefore, the second research model is significant in general and the

independent and control variables are able to explain earnings for the coming year. In addition, the adjusted coefficient of determination derived from the model test was 0.3822. This figure shows that 38% of the changes on the dependent variable, i.e. earnings for the coming year, can be explained by independent and control variables. Durbin-Watson test statistic is 2.1668. Considering that the statistic is between 1.5 and 2.5, the existence of an autocorrelation in the error values of the first model is not confirmed.

Table 8 Results of H2 Testing Model

Earnings _{t+1,i} = $\alpha_0 + \alpha_1$ Earnings _t + α_2 Earnings _t * MgrlAbility _t + α_3 FSize _t + α_4 EarnVol _{t-3,t} + α_5 CFO _t + α_6 OperCycle _t + α_7 Loss _t + α_8 Auditor _t + α_9 Δ Sales _t + e _{it}			
Description	Coefficient	t-static	p-value
Constant coefficient	2.1439	6.264	0.000
Earning _t	0.0864	4.215	0.006
Earnings _t × MgrlAbility _t	0.2967	4.721	0.000
FSize	0.0735	4.122	0.021
EarnVol	0.1216	6.328	0.000
CFO	0.0247	9.624	0.000
OperCycle	1.0342	2.332	0.094
Loss	-0.2187	-3.132	0.038
Auditor	0.0064	6.437	0.027
Δ Sales	0.1874	4.689	0.000
R-squared	0.3897		
Adjusted R-squared	0.3822		
F-static (p-value)	9.6127 (0.000)		
DW	2.1668		
(p-value) Chow test statistic	0.6438 (0.2165)		

In testing and determining the significance of coefficients, the effect of the latter on the dependent variable is also determined. Student's *t* statistic is used to determine the significance of coefficients. According to results, statistic *t*, related to the desired variable, i.e. MgrlAbility × Earnings_t, and its significance level (*p*-value) is 4.7213 and 0.000, respectively. Given that this value is less than the error level of 0/01, the model's variable coefficient is significant and the significant relationship between the management ability and earnings persistence is confirmed at the confidence level of 99%, because the coefficient of this variable (0.2967) is larger than the coefficient of the first independent variable, i.e. net profit (0.0864). The coefficient of the said variable (α_2) is positive. So, with the increase of the efficiency of management ability, the relationship between the earnings in the current and coming year becomes more. Therefore, the second hypothesis is confirmed.

H₃ testing

The third hypothesis of the research investigates the effect of management ability on accruals. Results of testing the third hypothesis are shown in Table 9.

Table 9 – Results of H2 Testing Model

$CFO_{t+1,i} = \alpha_0 + \alpha_1 Accruals_t + \alpha_2 Accruals_t * MgrlAbility_t + \alpha_3 FSize_t + \alpha_4 EarnVol_{t-3,t} + \alpha_5 CFO_t + \alpha_6 OperCycle_t + \alpha_7 Loss_t + \alpha_8 Auditor_t + \alpha_9 \Delta Sales_t + e_{it}$			
Description	Coefficient	t-static	p-value
Constant coefficient	0.2436	4.0894	0.0021
Accruals _t	0.0978	8.3266	0.0000
Accrual _t * MgrlAbility _t	0.2671	11.5436	0.0000
F Size	0.0166	9.6008	0.0000
EarnVol	0.1089	2.2904	0.0231
CFO	2.2339	10.7683	0.0000
OperCycle	0.0218	0.9687	0.2246
Loss	-0.1178	-1.7986	0.1083
Auditor	0.0217	1.7884	0.0946
ΔSales	0.0099	4.3376	0.0000
R-squared	0.4226		
Adjusted R-squared	0.4129		
F-static (p-value)	11.9043 (0.000)		
DW	2.0541		
(p-value) Chow test statistic	0.8994 (0.1653)		

The result of the Chow test ($ChowStatic=0.8994$ and $p-value=0.1653$) indicated that it is appropriate to use pooled data among the research data to estimate the third model. Statistic F (Fisher) related to the estimation model is significant at a confidence level of 99% ($F=11.9043$ and $p-value=0.000$). Therefore, the third research model is significant in general and independent and control variables are able to explain the earnings for the coming year. In addition, the adjusted coefficient of determination derived from the model test is 0.4129. This figure shows that 41% of the changes on the dependent variable, i.e. operating cash flow for the coming year, can be explained by independent and control variables. Durbin-Watson test statistic is 2.0541. Considering that the statistic is between 1.5 and 2.5, the existence of an autocorrelation in the error values of the third model is not confirmed.

According to the results, the statistic t , related to the given variable $Accruals_t \times MgrlAbility_t$, and its significance level (p -value) is 11.5436 and 0.000, respectively. Since this value is lower than error level of 0.01, the variable coefficient of the model is significant and the significant relationship between the management ability and accruals quality is confirmed at a confidence level of 99%, because the coefficient of this variable (0.2671) is greater than the coefficient of the first independent variable, i.e. accruals (0.0978). The coefficient of the said variable (α_2) is positive. So, with the increase of the efficiency of management ability, the relationship between the accruals in the current and the operating cash flow in the coming year becomes more intense. Therefore, H3 is confirmed.

Discussion and conclusion

The first dependent variable of the research is earnings restatement. This is an earnings

quality measures, so that the less is the number of earnings restatements, the higher is earnings quality. In other words, the management ability among tested companies decreased the earnings restatements, and this led to the increase of earnings quality. Therefore, the direct relationship between management ability and earnings quality in the first hypothesis is confirmed. The second dependent variable of the research and the second measure for earnings quality is the earnings persistence. The latter means repeated earnings in future periods and predictability of earnings in the coming year. The higher is the earnings persistence, the higher is the earnings quality. According to theoretical foundations of the research, it was expected that the management ability would have a significant effect on the increase of efficiency of corporate resources and earnings persistence, so that the higher is the quality of accruals, the higher is the quality of earnings. According to theoretical foundations of the research, it was expected that the management ability and efficiency would have a significant effect on the increase of accruals quality. The management ability in tested companies increased the quality of accruals. As a result, the direct relationship between management ability and accruals quality was confirmed in the third hypothesis. The results of this research are consistent with those obtained by Demirjian et al (2013) and Dehgani (2011) and indicate that there is a significant positive relationship between management ability and earnings quality. According to the results, the importance of accounting earnings and the possibility of manipulation, actual and potential shareholders should be more focused on the earnings quality provided by the company's management and adopt measures to increase earnings quality. Among these measures, one can mention the accuracy of selecting company's managers (Board of Directors and CEO) and their ability, and assigning an auditor.

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