

Can Managers Use Accruals Quality for Creating Investment Opportunity Set and Increasing Firm Value?

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ABSTRACT

There were two main objectives of this research. Firstly, the researchers analyzed the impact of accruals quality and debt on firm value. Secondly, the researchers studied whether managers of a highly leveraged firm could use discretionary accruals for Investment Opportunity Set (IOS). The sample consisted of Indonesian manufacturing firms listed from 2013 to 2016. The researchers utilized Generalized Method of Moments (GMM) method and purposive sampling. The researchers find that accruals quality positively affects firm value. The results also suggest that there are differences in accruals quality between highly leveraged and unleveraged firms. Furthermore, the results indicate that the more intensive the exploitation of accruals quality is, the greater the positive impact of such activity on firm value will be. Additionally, high-accrual leveraged firms borrow more debt than low-accrual unleveraged firms. Then, unleveraged firms have better accruals quality and cash flow, and highly leveraged firms have more significant accounts receivable and slightly better value of IOS. The findings suggest that managers of highly leveraged firms can use discretionary accruals to increase the value of IOS.

Keywords: accruals quality, investment opportunity set, firm value

INTRODUCTION

Earnings management has been considered as an essential issue for government and accountants. It is highly connected with the credibility of financial reporting especially after high-profile accounting scandals involving high-valued companies such as Parmalat in Italy, and Enron and WorldCom in the US (Chen, Elder, & Hung, 2010). The earnings management issue becomes more important when managers act by themselves at the expense of shareholders, and this is widely known as agency conflict (Wijaya & Wardhani, 2017).

In addition, Linck, Netter, and Shu (2013) stated that Investment Opportunity Set (IOS) could be affected by earnings management such as discretionary accruals. They argued that firms with high leverage used discretionary accruals for increasing stock price in the short period. This way helped a firm in funding a valuable project. Thus, the use of earnings management could lead to value creation. Moreover, Sulistiawan

and Rudiawarni (2017) showed that in Indonesia, accruals quality was used as a tool for investors to get an abnormal return. In other words, there was value maximization when accruals quality was used as a measurement. They argued that accounting quality tended to be lower in countries with high corruption. In other words, lowering accruals quality was an indication of earnings management practice.

Earnings management is shortly defined as, "Accounting policy that managers use to achieve a certain level of reported earnings" (Jasman, 2015). Earnings management can be achieved in the form of the aggregation of revenue on credit sales instead of cash (Matteo & Francesco, 2018) or recording current period of accounts receivable in the next period (Gill, Biger, Mand, & Mathur, 2013). Moreover, Gill *et al.* (2013) viewed that earnings management was obtainable by using accruals quality. Francis, LaFond, Olsson, and Schipper (2005) stated that accruals quality consisted of two factors such as discretionary and innate. The discretionary accruals were reflected

in accounting policies while innate factors were the best reflected by a firm business model. In other words, the overall quality of the financial statement was the best described by accruals quality while discretionary accruals were used for analyzing the managers' discretion over accounting policies.

According to Kallapur and Trombley (2001), IOS is briefly defined as a new creation. It is, "An increased production or engaging in positive net present value projects as a result of new capital expenditures and utilization of assets." There are some measurements of IOS such as market to book value of equity, book to market value of assets, earnings to price ratio, ratio of property, plant, equipment to firm value, ratio of capital expenditures to firm value, variance of returns, and asset beta. Some researchers have used the measurements of IOS individually, and some use factor analysis for IOS-related research. In addition, Nasab and Shafii (2015) argued that IOS was a good signal of future growth opportunities as this variable also reflected the market sentiment on firms' ability to produce cash flows in the future.

Jensen and Meckling (1976) defined agency theory as, "A contract between shareholders as the principal and management as the agents." The conflicted agency appeared when managers did not make decisions that maximized the wealth of company's stockholders, and some managers' decisions were accounting policies and capital expenditures (Jasman, 2015; Jensen & Meckling, 1976; Wijaya & Wardani, 2017). Additionally, management was given the authority to make decisions for the interest of shareholders. However, if both parties had different interests, it would not have been impossible that the agent behaved inappropriately with the interests of the shareholders. Moreover, they also suggested that debt could be utilized to minimize agency conflict.

Contract theory can relate to earnings management. Lambert (2001) argued that incentives in managers' contract were used for restricting moral hazard. He also stated that by offering an attractive remuneration for reporting a true accounting profit, the misuse of earnings quality could be reduced. In addition, contract theory also stated that managers with high IOS and larger passage to valuable projects were less discoverable for their self-interest decision such as earnings management (Chen, Elder, & Hung, 2010). If a company has a weak internal control, it can lead to consciously mislead earnings management (Doyle, Ge, & McVay, 2007).

Sitompul, Purwohedi, and Warokka (2017) studied the effect of discretionary accruals before Initial Public Offering (IPO). They found that there was an adverse effect of discretionary accruals on IPO stocks return. Similarly, Gill *et al.* (2013) found that earnings management negatively affected firm value. However, Chen, Elder, and Hung (2010) showed that there was a positive effect of accruals quality on IPO stocks returned and eventually increased firm value. Yu, Du, and Sun (2006) implied that earnings

management affected IPO price and increased firm value. The motivation of using earnings management for increasing firm value is also described in signaling theory (Gao, Cong, & Evans, 2015). In this theory, a good company tries to send a positive signal to investors so that stock return is positive. The earnings management can be one of the ways to increase firm value (Gao, Cong, & Evans, 2015). In Indonesia, accruals quality can be used as a tool for investors to get an abnormal return. In other words, there is a value creation when earnings management practice is employed (Sulistiawan & Rudiawarni, 2017). Based on the explanation, the first hypothesis is as follows.

H1 : Accruals quality impacts firm value positively.

Debt can be used to minimize agency conflict since decision makers are more careful in taking investment projects since managers are required to pay the obligation arising from using debt (Jensen & Meckling, 1976). When managers fail to fulfill the obligation to pay debts, they can lose their reputation (Wijaya & Wardani, 2017). In addition, the use of debt can increase firm value (Susanti & Restiana, 2018). However, there are empirical researches that the higher debt can decrease firm value. Ruan, Tian, and Ma (2011) stated that the higher debt decreased firm value for companies in China. Similarly, Salim and Yadav (2012) stated that companies in Malaysia were experiencing a decreasing of firm value when using high debt. Then, the second hypothesis is as follows.

H2 : Debt impacts firm value.

Linck, Netter, and Shu (2013) showed that a company, which had large debt and a positive net present value projects for signaling effect, utilized discretionary accruals. The managers could access more financing methods to fund valuable projects. In addition, Nasab and Shafii (2015) found that highly leveraged firm with good IOS had significantly bigger discretionary accruals than unleveraged firms. Therefore, the third and fourth hypotheses are as follows.

H3 : Discretionary accruals impact IOS positively.

H4 : There are differences in discretionary accruals between highly leveraged firms and unleveraged firms.

Based on the explanation, the researchers combine the ideas that accruals quality can be used for value maximization, and high debt firms can use accruals quality for growth opportunities. To the best of their knowledge, empirical researches about the relationship between accruals quality and IOS are still rare in Indonesia as reflected in bibliographic research by Suprianto and Setiawan (2017). The researchers expect this research will enrich the Indonesian literature, especially in earnings management.

METHODS

This research utilizes secondary data from 2013 to 2016. The purposive sampling method is also implemented. All the data are acquired from the Indonesian Stock Exchange official website (www.idx.co.id) and yahoofinance.com. The sample consists of all publicly traded manufacturing firms listed in the Indonesian Stock Exchange from 2013 to 2016. The reason for only using manufacturing companies is to manage the differences in the companies' business process as well as their investment level that may significantly different from other industries (Setianto & Kusumaputra, 2017).

In addition, there might have been a survival bias in the research, such as the exclusion of delisting companies. Previous researches such as Morris (2012) stated that the exclusion of delisted shares would not change the original result. Moreover, the researchers also exclude the companies with negative growth of capital expenditures and experiencing net loss during the length of research since the net loss will come to negative capital value of company intellectual (Asmawanti & Wijayanti, 2017). Additionally, the researchers also exclude Indonesian manufacturing firms that report financial statement in foreign currency for equal comparability (Asmawanti & Wijayanti, 2017). From the explanation, the researches have 35 Indonesian manufacturing firms as a sample. Table 1 shows the sample selection method.

Table 1 Sample Selection Method

Listed manufacturing firms in Indonesia (2013–2016)	144
Companies that experience net loss during the research	(40)
Companies with foreign currency in income statement	(27)
Delisting companies	(14)
Incomplete data	(8)
Companies that experience negative capital expenditure	(20)
Total companies	35
Firm years observation (balanced panel)	105

(Source: Sahamok.com; Researchers' Calculation)

The first regression on this research is to test the first hypothesis that accruals quality impacts firm value positively and the second hypothesis that debt can be used to increase firm value. To minimize endogeneity issues, the most important variables that impact firm value are used and taken from the previous empirical researches by Gill *et al.* (2013). The dependent variable is Tobin's Q (Q_{it}). The researchers use it as a proxy for firm value. The bigger the value of Q_{it} is, the better the firm value will be.

For the first hypothesis regarding accruals quality, the researchers use the model by Francis

et al. (2005). Moreover, there are two reasons why the researchers are using the model of Francis *et al.* (2005) as a proxy for accruals quality (AQF_{it}). First, the model is an extension of Dechow and Dichev (2002) and McNichols (2002). Hence, the model by Francis *et al.* (2005) has the better explanatory power of accruals quality. Second, the model is not widely used in earnings management research in Indonesia (Suprianto & Setiawan, 2017). The larger the AQF_{it} is, the poorer the earnings management and the overall quality of the financial statement is reduced (Francis *et al.*, 2005).

In the second hypothesis, the researchers use the capital structure of a company represented by debt to equity ratio (LEV). The researchers also add widely used two control variables in many empirical researches for the determinants of firm value such as profitability ratio ($Profit_{it}$) which is return on assets and total assets ($SIZE_{it}$) (Gill *et al.*, 2013). The first control variable is the return on assets ($Profit_{it}$). This ratio shows the ability of a company's asset in generating profit (Susanti & Restiana, 2018). The researchers expect that return on assets impacts the firm value positively. The second control variable is total assets ($SIZE_{it}$). Uzliawati, Nofianti, and Ratnasari (2016) stated that firm value was positively affected by firm size since large companies had better financing flexibility compared to small firms. Hence, the researchers expect that total assets affect firm value positively. The researchers utilize Generalized Method of Moments (GMM) in the data of a panel model for controlling the endogeneity problem (Javadi, Alimoradi, & Ashtiani, 2017). In addition, $Profit_{it}$, AQF_{it} , $SIZE_{it}$, LEV, and Constanta are instrument parameters in the empirical model. Thus, the first regression model is as follows.

$$Q_{it} = \alpha_i + \beta_{1i}AQF_{it} + \beta_{2i}Profit_{it} + \beta_{3i}SIZE_{it} + \beta_{4i}LEV_{it} + \epsilon_{it} \quad (1)$$

In the second model, the researchers investigate the impact of discretionary accruals on IOS in highly leveraged firms. This regression is motivated the research by Linck, Netter, and Shu (2013) and Nasab and Shafii (2015). According to Bei and Wijewardana (2012), there are some financial leverage measures such as the widely-used total debt to total asset; book value debt divided in the book value equity; book value debt divided in the market value equity; and market value debt over market value equity. In this research, highly leveraged firms are the ones with debt to equity ratio above 1. The researchers sort the sample based on a highly leveraged ratio (debt to equity ratio). The researchers separate highly leveraged firms (debt to equity ratio above 1) and low leveraged or unleveraged firms (debt to equity ratio below 1). The researchers use highly leveraged firm's data as the sample for this model.

The AQK_C_{it} in the second equation represents discretionary accruals in highly leveraged firms. Then, IOS_C_{it} represents IOS in highly leveraged firms. The

researches expect that discretionary accruals impact IOS positively. Moreover, the second equation is to test the third hypothesis. Thus, the second regression model is as follows.

$$IOSC_{it} = \alpha + \beta_{1i} AQKC_{it} + \epsilon_{it} \quad (2)$$

For the fourth hypothesis, the researchers run the simple paired test. It is for analyzing whether there are differences in discretionary accruals between highly leveraged firms and unleveraged firms.

Table 2 Operationalization of Variables

Variables	Definitions	Scale
Q_{it}	It is for firm value $\frac{(\text{Market Value of Equity} + \text{Book Value of Debt})}{(\text{Book Value of Total Assets})}$	Ratio
IOS_{it}	It consists of the following ratios: <i>Capital Expenditure to Book Value of Assets (CEBVA)</i> $= \frac{(\text{book value of fixed assets at time } t - \text{book value of fixed assets at time } t-1)}{\text{Total Assets}}$ <i>Market Value to Book Value of Equity (MVBVE)</i> $= \frac{(\text{outstanding shares} \times \text{closing price})}{\text{Book Value of Equity}}$	Ratio
AQF_{it}	$\frac{TCA_{it}}{A_{it-1}} = \alpha_i + \beta_{1i} \frac{CFO_{it-1}}{A_{it-1}} + \beta_{2i} \frac{CFO_{it}}{A_{it-1}} + \beta_{3i} \frac{CFO_{it+1}}{A_{it-1}} + \beta_{4i} \frac{\Delta REV_{it}}{A_{it-1}} + \beta_{4i} \frac{PPE_{it}}{A_{it-1}} + \epsilon_{it}$ $TCA_{it} = \Delta CA_{it} - \Delta CL_{it} - \Delta Cash_{it} + \Delta STDEBT_{it}$ TCA_{it} = Total current accrual of firm i at time t ΔCA_{it} = Current asset of a firm at time t minus current asset of a firm at time t-1 (previous year) ΔCL_{it} = Current liabilities of a firm at time t minus current liabilities of a firm at time t-1 (previous year) $\Delta Cash_{it}$ = Cash of a firm at time t minus cash of a firm at time t-1 (previous year) $\Delta STDEBT_{it}$ = firm j's change in debt in current liabilities between time t and time t-1 (previous year) CFO_{it-1} = Cash flow from operating of a firm at time t-1 CFO_{it} = Cash flow from operating of a firm at time t CFO_{it+1} = Cash flow from operating of a firm at time t+1 ΔREV_{it} = Current year revenues minus last year revenues PPE_{it} = Gross property, plant, and equipment ϵ_{it} = residuals The researchers use a 2-year standard deviation of residuals as a proxy for accruals quality.	Ratio

Table 2 Operationalization of Variables (continued)

Variables	Definitions	Scale
AQK _{it}	Discretionary Accrual	Ratio
	$\frac{TA_{it}}{A_{it-1}} = \alpha_i \left[\frac{1}{A_{it-1}} \right] + \beta_{1i} \left[\frac{\Delta REV_{it} - \Delta REC_{it}}{A_{it-1}} \right] + \beta_{2i} \left[\frac{PPE_{it}}{A_{it-1}} \right] + \beta_{3i} \left[\frac{\Delta ROA_{it}}{A_{it-1}} \right] + \epsilon_{it}$	
	TA = Total accrual TA = NI _{it} - CFO _{it} NI _{it} = Net income at time t CFO _{it} = Cash flow from operating at time t ΔREV _{it} = Current year revenues minus last year revenues PPE _{it} = Gross property, plant, and equipment ΔREC _{it} = Current year account receivable minus last year account receivable A _{it-1} = Previous year total assets ROA _{it} = Return of assets $ROA_{it} = \frac{\text{Current Net Income}}{\text{Total Assets}}$	
	ΔROA _{it} = Current year roa minus last year ROA ε _{it} = residuals The researches use the absolute value of residuals as a proxy for discretionary accrual.	
	Return of Assets	Ratio
	$ROA_{it} = \frac{\text{Net Income}}{\text{Total Assets}}$	
	Firm size = logarithm of total assets	Ratio
	The capital structure of a company proxied by Debt to Equity Ratio	Ratio

(Source : Francis *et al.*, 2005; Gill *et al.*, 2013; Kallapur & Trombley, 2001; Kothari, Leone, & Wasley, 2005; Linck, Netter, & Shu, 2013; Saifi, 2017; Susanti & Restiana, 2018; Susanto & Siregar, 2012)

Variables definition of the regression models can be seen in Table 2. In addition, before running the regression for the model, the researchers apply the Exploratory Factor Analysis (EFA) for IOS variables. The researches utilize EFA to reduce the ratios to a smaller set of summary variables (Ghozali & Ratmono, 2017). Then, SPSS 20 is the software for this analysis. Since the dataset for Model 1 is the balanced data panel, the researchers utilize Chow test, Hausman test, and LM test for fixed effect, random effect or common effect.

RESULTS AND DISCUSSIONS

The IOS consists of Capital Expenditure to Book Value of Assets (CEBVA) and Market Value to Book Value of Equity (MVBVE). As previously mentioned, the researchers apply EFA to reduce the ratios to a smaller set of summary variables (CEBVA and MVBVE ratios). Table 3 provides the result of KMO and Bartlett's Test on CEBVA and MVBVE variables.

Table 3 KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0,500
Bartlett's Test of Sphericity	Approx. Chi-Square	4,117
	df	1
	Sig.	0,042

(Source: Data Processed Using SPSS 20 by Researchers)

The result of KMO and Bartlett's test is 0,50, and Bartlett's test of sphericity is also significant (0,042). Since the KMO and Bartlett's result are above or equal to 0,5 and significant, the researchers can proceed with EFA (Ghozali & Ratmono, 2017). Table 3 is the component matrix for IOS factors. The results in Table 4 shows that the researchers can use the following equation to calculate the value of IOS.

$$IOS = -0,774CEBVA + 0,774MVBVE \quad (3)$$

Table 4 Component Matrixa

	Component 1
CEBVA	-0,774
MVBVE	0,774

Extraction Method: Principal Component Analysis.

a. 1 component is extracted

(Source: Data Processed Using SPSS 20 by Researchers)

Descriptive statistics in this research can be seen in Table 5. On average, Qit score is 1,3. Meanwhile, the maximum value is 18,6 and the minimum value 0,06. The standard deviation of firm value is 3,43. The firm that has the highest value of Qit is PT Unilever Indonesia Tbk (UNVR). The average Qit value of the sample is above 2. It indicates that Indonesian manufacturing firms commonly have a good IOS. The maximum number of accruals quality is 0,081 while the minimum number is 0. The mean value of accruals quality is 0,002, and the standard deviation is 0,009. It means that the sample is quite similar regarding accruals quality. The larger the number of accruals quality is, the poorer the quality of the financial statement will be (Francis *et al.*, 2005). In addition, the highest profitability ratio is 0,4, and the lowest is 0. PT Unilever Indonesia Tbk (UNVR) has the best profitability ratio in this research.

The biggest company with the size value of 23,4 in this research goes to PT Kalbe Farma Tbk (KLBI). In addition, some of the most leveraged companies are PT Indal Aluminium Industry Tbk (INAI), PT Japfa

Comfeed Indonesia Tbk (JPFA), and PT Unilever Indonesia Tbk (UNVR). Then, Table 5 also shows that highly leveraged firms have a higher value of discretionary accruals. It can be seen at the average value of $AQK_{C_{it}}$ (1,22). Meanwhile, the unleveraged firms have a considerably lower value of discretionary accruals. The average value of $AQK_{U_{it}}$ is 0,40. The highly leveraged firms also have more variability in their discretionary accruals compared to unleveraged firms as seen in the value of standard deviation. Table 5 also shows that highly leveraged firms have a slightly better value of $IOS_{C_{it}}$ compared to unleveraged firms ($IOS_{U_{it}}$).

Another interesting fact is the average of changes in credit sales in highly leveraged firms ($\Delta REV_{C_{it}}$) is Rp1,1 trillion. The average of changes in account receivable for highly leveraged firms ($\Delta REC_{C_{it}}$) is Rp28 billion. On the other hand, the average of changes in credit sales for highly leveraged firms ($\Delta REV_{U_{it}}$) is Rp0,9 trillion. Then, the average of changes in credit sales for unleveraged firms ($\Delta REC_{U_{it}}$) is Rp10 billion. It means that the highly leveraged firms have a considerably larger accumulation of accounts receivable than the unleveraged firms.

Table 6 shows the classical assumptions test for the regression Model 1. It can be seen that regression in Model 1 has heteroscedasticity and autocorrelation issues. However, the Model 1 has passed the normality and multicollinearity tests.

Table 7 shows the regression result for the determinants of firm value. The result of Chow test and Hausman test show that fixed effect model is the appropriate model for the regression. Thus, Table 7 is the result of GMM for fixed effect model. The results show that the accruals quality has a positive and significant impact on firm value. This result is consistent with Chen, Elder, and Hung (2010) and Yu, Du, and Sun (2006). This finding shows that in developing countries where the corruption rate is relatively high, the earnings management practice is quite apparent (Gill *et al.*, 2013). The result also suggests the earnings management is used by manufacturing firms in Indonesia to smooth earnings (Jasman, 2015). Moreover, this result also indicates the more intensive the exploitation of earnings management is, the greater the positive impact of such activity will be on firm values. Indonesia market does not seem to detest such action.

Based on the result, the first hypothesis is accepted. However, this result is not consistent with Gill *et al.* (2013) and Sitompul, Purwohedhi, and Warokka (2017). Their results indicated that accruals quality negatively affected companies' values. In the context of Indonesia, the result is also consistent with Sulistiawan and Rudiawarni (2017). They argued that accruals quality could be used as a tool for investors to get an abnormal return. In other words, there was a value creation when earnings management practice was employed.

The second hypothesis use capital structure of a company represented by LEV. The result

shows that capital structure does not affect firm value significantly. This result is not in line with the researchers' expectation. This result does not conform with the result of Susanti and Restiana (2018). Based on the result, the second hypothesis is not accepted. Besides, the result is not consistent with Wijaya and Wardani (2017) who stated that leverage was correlated with firm value negatively since the larger debt was resulting from agency conflict.

There are two control variables in this research. First, it is profitability ratio (Profit) represented by the return on asset. The result shows that the return on asset has a positive and significant effect on firm value. The interpretation of this result is that managers will maximize the value of the firm by increasing profitability. The greater the return on asset is, the greater the return of asset utilization will be. This ratio also shows the ability of company's asset in generating profit. The result is in line with the researchers' expectation that the return on assets positively affects

firm value. This finding is supported by Hidayah (2014) and Susanti and Restiana (2018).

The second control variable is SIZE. Table 7 shows that SIZE has negative and insignificant effect on firm value. This finding is in line with the work of Susanti and Restiana (2018). It indicates a negative relationship between SIZE and firm value. The result is not in line with the research of Uzliawati, Nofianti, and Ratnasari (2016) who stated that firm value was positively affected by company size since large companies had better financing flexibility compared to small firms. Hence, this finding does not conform to the researchers' expectation that SIZE positively affects firm value.

The adjusted r-square of the GMM for fixed effect regression is 98%. It means the independent variables about 98% can explain the variation. Other variables explain only 2% of the variation. The results show that P-value of J-statistics is less than 0,05. Thus, the empirical model is valid (Javadi *et al.*, 2017).

Table 5 Descriptive Statistics

	N	Mean	Median	Maximum	Minimum	Std. Dev
Q_{it}	105	2,6	1,3	18,6	0,06	3,4
AQF_{it}	105	0,002	0,000	0,08	0,000	0,009
$Profit_{it}$	105	0,090	0,076	0,415	0	0,084
$SIZE_{it}$	105	15	14	23	11	2
LEV_{it}	105	0,99	0,71	6,34	0,08	0,92
$AQK_{C_{it}}$	41	1,22	0,39	10,25	0,03	2,16
$AQK_{U_{it}}$	64	0,40	0,25	1,79	0,01	0,41
$IOS_{C_{it}}$	41	0,36	0,31	1,8	-0,51	0,6
$IOS_{U_{it}}$	64	0,21	0,01	1,9	-0,52	0,5
$\Delta REC_{C_{it}}$	41	28	0,0005	322	-123	81
$\Delta REC_{U_{it}}$	64	10	0,001	276	-127	53
$\Delta REV_{C_{it}}$	41	0,9	0,3	5,6	-0,3	1,4
$\Delta REV_{U_{it}}$	64	1,1	0,2	9,7	-2,4	2,5

(Source: Data Processed Using EViews 10 by Researchers)

Description : Q_{it} = firm value, AQF_{it} = accruals quality, $Profit_{it}$ = return on assets, $Size_{it}$ = log total assets, Lev_{it} = debt to equity ratio, $AQK_{C_{it}}$ = discretionary accruals of highly leveraged firms, $AQK_{U_{it}}$ = discretionary accruals of unleveraged firms, $IOS_{C_{it}}$ = IOS of highly leveraged firms, $IOS_{U_{it}}$ = IOS of unleveraged firms, $\Delta REC_{C_{it}}$ = changes in account receivable for highly leveraged firms (in billion Rupiah), $\Delta REC_{U_{it}}$ = changes in account receivable for unleveraged firms (in billion Rupiah), $\Delta REV_{C_{it}}$ = changes in credit sales for highly leveraged firms (in trillion Rupiah), $\Delta REV_{U_{it}}$ = changes in credit sales for unleveraged firms (in trillion Rupiah)

Table 6 shows the classical assumptions test for the regression Model 1. It can be seen that regression in Model 1 has heteroscedasticity and autocorrelation issues. However, the Model 1 has passed the normality and multicollinearity tests.

Table 6 Classical Assumptions Test

Heteroskedasticity Test: White	
Obs*R-squared = 64,7	Prob. Chi-Square = 0,000
Breusch-Godfrey Serial Correlation LM Test:	
Obs*R-squared = 17,8	Prob. Chi-Square = 0,000
Variance Inflation Factors	
	1,02
	1,03
	1,05
	1,04
Normality Test (Jarque - Bera)	
Jarque – Bera	1,49
Probability	0,47

(Source: Data Processed Using EViews 10 by Researchers)

Table 7 shows the regression result for the determinants of firm value. The result of Chow test and Hausman test show that fixed effect model is the appropriate model for the regression. Thus, Table 7 is the result of GMM for fixed effect model. The results show that the accruals quality has a positive and significant impact on firm value. This result is consistent with Chen, Elder, and Hung (2010) and Yu, Du, and Sun (2006). This finding shows that in developing countries where the corruption rate is relatively high, the earnings management practice is quite apparent (Gill *et al.*, 2013). The result also suggests the earnings management is used by manufacturing firms in Indonesia to smooth earnings (Jasman, 2015). Moreover, this result also indicates the more intensive the exploitation of earnings management is, the greater the positive impact of such activity will be on firm values. Indonesia market does not seem to detest such action.

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value significantly. This result is not in line with the researchers' expectation. This result does not conform with the result of Susanti and Restiana (2018). Based on the result, the second hypothesis is not accepted. Besides, the result is not consistent with Wijaya and Wardani (2017) who stated that leverage was correlated with firm value negatively since the larger debt was resulting from agency conflict.

There are two control variables in this research. First, it is profitability ratio (Profit) represented by the return on asset. The result shows that the return on asset has a positive and significant effect on firm value. The interpretation of this result is that managers will maximize the value of the firm by increasing profitability. The greater the return on asset is, the greater the return of asset utilization will be. This ratio also shows the ability of company's asset in generating profit. The result is in line with the researchers' expectation that the return on assets positively affects firm value. This finding is supported by Hidayah (2014) and Susanti and Restiana (2018).

The second control variable is SIZE. Table 7 shows that SIZE has negative and insignificant effect on firm value. This finding is in line with the work of Susanti and Restiana (2018). It indicates a negative relationship between SIZE and firm value. The result is not in line with the research of Uzliawati, Nofianti, and Ratnasari (2016) who stated that firm value was positively affected by company size since large companies had better financing flexibility compared to small firms. Hence, this finding does not conform to the researchers' expectation that SIZE positively affects firm value.

The adjusted r-square of the GMM for fixed effect regression is 98%. It means the independent variables about 98% can explain the variation. Other variables explain only 2% of the variation. The results show that P-value of J-statistics is less than 0,05. Thus, the empirical model is valid (Javadi *et al.*, 2017).

Table 8 shows the findings whether highly leveraged firms use discretionary accruals for IOS. Since dataset in Model 2 is time series, the researches utilize Ordinary Least Square for analysis. As previously mentioned, IOS consists of CEBVA and MVBVE ratios. The probability value of AQK_{it} is 0,026. The coefficient is positive and significant at 5%. This result shows that earnings management practice is apparent at highly leveraged firms in Indonesia. The result suggests the implementation of discretionary accruals improves investment capability for firms with high debt.

Additionally, there is a positive relationship between earnings quality and investment efficiency. This result is consistent with Linck, Netter, and Shu (2013) and Matteo and Francesco (2018). Thus, the third hypothesis that IOS is positively related to discretionary accruals is accepted.

The descriptive statistics in Table 5 also supports the interpretation of the regression results. The high-accrual leveraged firms have a slightly higher value of IOS compared to the low-accrual

unleveraged firms. Moreover, the movement of accounts receivable for high-accrual leveraged firms is significantly higher than accounts receivable of the low-accrual unleveraged firm. This result supports the indication that managers of highly leveraged firms tend to accumulate revenue from credit sales instead of

cash. In other words, the managers of highly leveraged firms use discretionary accruals for IOS. The results are also consistent with Nasab and Shafii (2015) who found that highly leveraged firms with good IOS had significantly bigger discretionary accruals than unleveraged firms.

Table 7 Regression Results +

$$Q_{it} = \alpha_i + \beta_{1i} AQF_{it} + \beta_{2i} Profit_{it} + \beta_{3i} SIZE_{it} + \beta_{4i} LEV_{it} + \epsilon_{it}$$

Variables	Predicted Sign	Coeff.	Prob.
α_i	+/-	3,20	0,5170
AQF_{it}	+	117,5	0,0000*
$Profit_{it}$	+	8,40	0,0000*
$SIZE_{it}$	+	-0,1045	0,7358
LEV_{it}	+/-	0,0733	0,6607
<i>Adjusted R Squared</i>			0,9814
<i>J-Statistic</i>			66
<i>Prob(J-Statistic)</i>			0,0000*
<i>N</i>			105

+This regression has been corrected with white cross-section standard errors & covariance for heteroscedasticity and autocorrelation issues

*Statistically significant at 1 % level

(Source: Data Processed Using EViews 10 by Researchers)

Description: Q_{it} = firm value, AQF_{it} = accruals quality, $Profit_{it}$ = return on assets, $Size_{it}$ = log total assets, Lev_{it} = debt to equity ratio

Table 8 Regression Results

$$IOSC_{it} = \alpha + \beta_{it} AQKC_{it} + \epsilon_{it}$$

Variables	Predicted Sign	Coeff.	Prob.
α_i	+/-	0,313	0,018
$AQKC_{it}$	+	0,00	0,026**
<i>Adjusted R Squared</i>			0,10
<i>F-Statistic</i>			5,32
<i>Prob(F-Statistic)</i>			0,026**
<i>N</i>			41

**Statistically significant at the 5 %

(Source: Data Processed Using EViews 10 by Researchers)

Description: AQK_C_{it} = The value of discretionary accruals for highly leveraged firms, IOS_C_{it} = The value of IOS for highly leveraged firms

Table 9 Paired Samples Test

	Mean	Std. Dev	Std. Error Mean	t	Sig. (2-tailed)
$AQK_U_{it} - AQK_C_{it}$	-0,8517	2,1611	0,3460	-2,461	0,018**

**Statistically significant at the 5 % level

(Source: Data Processed Using SPSS 20 by Researchers)

Description: AQK_C_{it} = The value of discretionary accruals for highly leveraged firms, AQK_U_{it} = The value of discretionary accruals for unleveraged firms

Table 9 shows the paired test that analyzes whether there are differences of earnings management practice represented by the value of discretionary accruals between highly leveraged firms and unleveraged firms. The researchers suspect there are differences in discretionary accruals between highly leveraged firms and unleveraged firms. The sig. (2-tailed) shows the value of 0,018, and it is significant. This result confirms that earnings management practice is apparent in highly leveraged firms rather than in unleveraged firms. The findings are also supported by the descriptive statistics that show the average value of discretionary accruals for highly leveraged firms is 1,22. It is significantly higher than the average value of discretionary accruals for unleveraged firms (0,40). Based on the explanation, the fourth hypothesis is accepted. Moreover, these findings are consistent with Nasab and Shafii (2015) who stated that highly leveraged firms had significantly bigger discretionary accruals than unleveraged firms.

CONCLUSIONS

The results suggest that earnings management is apparent in manufacturing companies in Indonesia. The researchers argue that managers of highly leveraged firms can use discretionary accruals for IOS. The researchers find that there are differences in earnings management practice between highly leveraged and unleveraged firms. Additionally, high-accrual highly leveraged firms borrow more debt than low-accrual unleveraged firms.

The researchers also find that unleveraged firms have better earnings management and cash flow. Meanwhile, highly leveraged firms have bigger accounts receivable movement and slightly better value of IOS. The results also indicate that the more intensive the exploitation of earnings management is, the greater the positive impact of the activity on firm values will be. Indonesia market does not seem to detest such action.

The research limitation is that the researchers only use Indonesian manufacturing firms as a consequence and advise the readers to remain cautious about the generalization of the results to other industries. It may have a different business process and investment. Although the sample size is small, the researchers are confident that the practice of managing accruals in this research can be generalized, especially for manufacturing firms. For future research, the researchers strongly suggest to include factors that may limit the ability of managers to manage their earnings such as audit quality.

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