Exchange Rate Movements, Earnings Management and Stock Returns in Malaysia

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Abstract: Foreign exchange risk is unavoidable when firms involved in international financial transactions. The extant literature in foreign exchange exposure contends that firms in developing countries have limited abilities to manage the price changes due to their credit constraints and lacks of hedging opportunities. Consequently, many firms suffer unfavourable exchange rate translation on their reported earnings. The paper aims to examine the relationship between the exchange rate movements and the uses of accounting earnings management practices and how it affects the stock returns of the Malaysian public listed firms. The study covers a population of 839 non-financial firms from 2012 to 2016. The study applies discretionary accruals as a proxy for earnings management, while exchange rate movement is measured using annual changes in average quarterly exchange rate. The discretionary accruals is further classified into positive and negative earnings management to analyse the different exchange rate movements' scenarios. The findings proved that exchange rate movements do contribute to earnings management by firms when the exchange rates weakened. However, earnings management does not present a significant relationship with foreign exchange rates when the exchange rate strengthened. Secondly, the findings conclude that earnings management positively affects annual stock returns in Malaysia. The findings suggest that when earnings management practices are applied, it tends to mislead investors to invest further on the stocks and increase the stock returns. The study concludes that during the weakening of the exchange rate of Ringgit Malaysia, published earnings shall be reevaluated. Investors shall disentangle earnings management so that to provide an actual view of the firms' performance. The study contributes to the earnings management literature by bringing in the issues of exchange rate movements.

Keywords: Earning management, Malaysia, emerging market, foreign exchange movements, stock returns.
JEL classification: P34, P45, G32, G34

1. Introduction

Exchange rate movements have always been a primary concern for firms involved in foreign trading. Unexpected currencies movements are unavoidable when firms trade in their trading partners' currencies. Based on the past literature, firms in developing countries have limited abilities to manage the price changes due to their credit constraints and lacks of hedging opportunities (Mengistu *et al.*, 2017). These have caused unfavourable exchange rate translation on their reported earnings. How do the factor of exchange rate impact firms'

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earnings performance, and how do earnings management that were practiced to meet earnings target and subsequently lead to improved stock prices lead to this study. Malaysia is chosen as the primary country for the study as the Malaysian Ringgit suffered the most adverse impact (among Southeast Asia countries) from the US's normalization of monetary policy since 2013. There has been continuous appreciation of USD, while Malaysian ringgit has faced significant weakening of 33% from MYR3.18 to USD1 in 2013 to MYR4.23 to USD1 in 2016.

Malaysia is one of the developing countries in Asia where the number of listed firms in Bursa Malaysia have grown from 285 in 1990 to 911 firms in 2018, a fourfold over the past 30 years (Bursa Malaysia, 2018). On top of that, international trade has become the primary contributor to GDP for Malaysia, which can be seen in the total amount of export and import (Table 1). Both export and import constituted 129% of Malaysia's GDP. Export for Malaysia has been increasing steadily from MYR714,075 million in 2010 to MYR832,388 million in 2016, 67.6% of Malaysia GDP. However, exports percentage over GDP reduces year by year despite the continuous weakening of Malaysia ringgit from MYR3.18 to 1 USD in 2011 to MYR4.22 to 1 USD in 2016. On the other hand, import as a percentage of GDP, hovering around 63% from 2013 to 2016, reflecting the country relies on imported goods, on the back of weakening home currency.

Table 1: Malaysia GDP, export, import and exchange rate (2010-2016).

Year	GDP	Export	Import	% Export+Import/GDP	Exchange Rate
2010	821,434	714,075	583,337	158%	3.08
2011	911,733	777,302	635,316	155%	3.19
2012	971,252	770,202	665,714	148%	3.05
2013	1,018,614	770,368	683,408	143%	3.18
2014	1,106,443	816,483	713,863	138%	3.26
2015	1,157,723	817,370	728,778	134%	4.38
2016	1,230,120	832,388	750,096	129%	4.14

Notes: Figures are in RM million, except Exchange rate is RM/USD. Data obtained from Department of Statistics Malaysia, 2017.

Public listed firms operate and survive through the capital invested by external investors in the open market. The primary objective of investors has always been in obtaining the highest amount of earnings in returns. To ensure the continuous inflow of capital, firms need to ensure that the company fulfils investors' return requirement in term of profits and higher stock returns. Investors depend on a broad set of timely and accurate information available through financial results to help them make investment decisions. However, the existence of information asymmetry has made investment decisions more complicated. A primary contributor to information asymmetry in the market is the practice of earnings management by the management of the firm to manipulate earnings (Richardson, 2000). Earnings management has been broadly studied in the past literature in the form of real earnings management (Huang and Li, 2017; Makarem, 2015; Badertscher *et al.*, 2009a) and accounting earnings management (Bergstresser and Philippon, 2006; Chang *et al.*, 2013; Dela Cruz, 2015). Firms utilize earnings management in order to achieve the earnings target so that investors are not disappointed with the firms and continue to invest in the firms (Mindak *et al.*, 2016).

Helhel (2015) explains that the impact of exchange rates on firms does depend on the scale of foreign trades. The more significant number of trades, the larger the exposure of the exchange rate to the firms. Simakova (2017) in her study on exchange rate impact on the Visegrad group of countries also showed a significant impact of exchange rates on the firms'

performance. While firms utilize earnings management to manage earnings to a level which is on par or higher than the market target, the intended outcome is to achieve higher stock prices (Ngunjiri, 2017). When a firm continuously beat or meet the market target, there will be higher investors' confidence or sentiment towards the firms (Mindak *et al.*, 2016) and thus eventually contributes to higher stock prices for the firm (Huang *et al.*, 2014).

In the past, multinational firms such as Enron, WorldCom have been utilizing financial reporting as a means to reflect stable and robust firm performance. Lesson learned from these multinational firms is that financial reports can be manipulated or inaccurate to fulfil the companies' boards or management's interests. This practice is explained through the study of positive accounting theory where accountant or management will adopt accounting principles that will lead to rewards from the market and avoid punishment from the market (Mouck, 1992). Increased earnings managed by companies are not the earnings but only consisting of temporary accounting adjustment, which will be reversed in the future period.

The paper addresses the impact of exchange rate movements that motivates firms to use earnings management and the consequence of earnings management on stock returns in Malaysia. Accounting earnings management is used as the primary scope of this study. Accounting based earnings management involved making choices over policy or principals between available accounting alternative to present higher or lower earnings while real earnings management activities are making operational choices to delay or move forward real activities such as the purchase of equipment or maintenance activities to reflect better financial positions. Prior studies have provided evidence that companies make choices between these two earnings management strategies (Cohen *et al.*, 2008) and these two strategies are being used to substitutes each other depending on the type of costs involved (Zang, 2012).

During economic uncertainties, firms' economic growth will be affected. In the scenario of exchange rate movements, management may manage earnings to meet management objectives (Stein and Wang, 2016). Empirically, there is also a weak relationship between exchange rate movements and stock returns in US, which earnings management has been suggested as one of the contributing factors. The volatility of exchange rate movements, such as weakening of home currency, may prompt firms to use earnings management as buffer to reduce foreign exchange exposure (Chang *et al.*, 2013). Generally, empirical works on earnings management often lead to negative stock return due to the issues of information asymmetry (Chu and Song, 2010; Wu *et al.*, 2012). The main reason has been that firms have been overvalued which corresponding to high accrual and stock returns diminish before investors realize the actual value of the firm. However, whether firms pursue earning management when exchange rate is volatile is an interest subject in this emerging economy. Hence, this study aims to look at the issues of earnings management in the scenarios of foreign exchange movement and its impact on stock returns.

Using a total 893 non-finance companies data from 2012 to 2016, the study adds to the knowledge of foreign exchange movement and earnings management. The contributions of the study are twofold. First, the study addresses the impact of the foreign exchange movement on earnings management, which to our best knowledge is the first to address foreign exchange movements on earnings management. The study establishes that Malaysia firms involve in positive earnings management when firms are experiencing adverse impact from the weakening of exchange rate, but not during the period when exchange rate is strengthening. Secondly, in contrast to previous literature which shows a positive relationship between earnings management and stock returns, the findings in this emerging market indicate a positive relationship between earnings management and stock returns. The positive relationship suggests that information asymmetry is severe during the period of

weak exchange rate movement, and the stock market is inefficient because earnings management misleads the equilibrium in the capital market. In summary, the study suggests that time-varying condition during weak exchange rate scenario, capital market may become not efficient due to earnings management.

The remainder of the paper is organized as follows. Section 2 presents the literature review and hypothesis development. Section 3 describes the methodology. Section 4 discusses the findings, and section 5 concludes the study.

2. Literature Review and Hypotheses Development
2.1 Exchange Rate Movements and Earnings Management
The volatility of exchange rate will be affecting a country performance at least for the short run. Chong and Tan (2007) study the four major Southeast Asia countries (Malaysia, Indonesia, Thailand, and Singapore), with the exception of Thailand, the exchange rate volatility and macroeconomic factors are moving in line to achieve the long-run equilibrium and stability with the effective roles from the authorities and market players.

Hence, in the short run, exchange rate movements have a substantial impact on the primary trading activities of the firm. The situation does not limit to exporting firms, Li *et al.* (2018) study the firm-level impacts of exchange rate shocks conclude that exchange rate movement also indirectly impact non-exporting firms through the supply chain of the firm. Therefore, in the scenario of weakening of home currency, the profit of domestic firms which may not direct related to export may be adversely affected (Hong *et al.*, 2018).

In a recent study by Nagahisarchoghaei *et al.* (2018) on Indian firms, the strengthening of exchange rate caused an increase in imports index, the cost on foreign exchange transaction and foreign currency borrowings and eventually lower down the price-earnings ratio (PE) and internal growth of a firm. The study also concludes that firms with higher PEs are less exposed to foreign exchange movements. The above conclusion on PE was supported in Soni (2018), which found that there is a strong positive correlation between earnings per share and the exchange rate of non-financial firms. In the case where the exchange rate is strengthening, earnings per share increases and hence lower down the PE ratio.

Doukas *et al.* (2003) emphasize that in addition to macroeconomic variables and industrial competition structure, firm-specific characteristics such as foreign currency debt, hedging, firm size, leverage, liquidity and growth opportunities also affect firms' foreign exchange exposure. During uncertain economic conditions, earnings management could act as hedging too, particularly for the purpose of income smoothing could reduce foreign exchange exposure (Chang *et al.*, 2013). Chang *et al.* (2013) further conclude the positive relationship on the earning management and changes in cash flow due to foreign exchange exposure in the US market.

Exchange rate movements are risks that affect cash flows and reported earnings in firms. However, in reality, many firms in US are not employing risk hedging facilities (Barton 2001). To conceal the adverse impacts, firms are motivated to use earnings management when foreign exchange movements are not in their favour (Pincus and Rajgopal, 2002). However, the literature on exchange rate movements and earnings management are still scarce. From the study conducted in the context of US Corporations, Chang *et al.* (2013) provide the evidence that earnings management is used to smooth earnings especially during adverse operating conditions due to instability of exchange rates. Thus, in the situation where manipulating of earnings will help to obscure firm's actual performance, due to sudden foreign exchange movements, the investors may not be able to evaluate the impact of exchange rates on firm's value accurately. In another study, Stein and Wang (2016)

concludes that there is negative discretionary accruals when firms are less certain about their future prospect.

In Malaysia, researches related to earnings management are pervasive. Various earnings management researches have been conducted on different attributes such as on family firms (Mohd Fadzilah, 2017; Abdul Rahman and Noorhayati, 2018), International Finance Reporting Standard (IFRS) adoptions and fraud (Wong, 2018; Md Nasir *et al.*, 2018) and management incentives (Chu and Song, 2012). All the studies reveal the component of earnings management practices in Malaysian firms with the objective of income smoothening.

However, the issue of exchange rate movements on earnings management has not been addressed in Malaysia. Thus, this paper proposes to examine whether the incidents of earnings management are related to exchange rate movements. Hence, the first hypothesis suggests that:

H1: There is a relationship between earnings management and exchange rate movements in Malaysia

2.2 Earnings Management and Stock Return

The literature on the impact of earnings management on share returns provides several contradicting results among researchers. Several researchers concluded that earnings management tends to adversely affect share returns as investors can identify the components of earnings management. Liu and Wu (2018) in their study, conclude that firms inflate earnings through earnings management in the pre-IPO stage and increase IPO price but share returns drop post IPO when investors aware of earnings management. Wu *et al.* (2012) concluded similar results with their study on Taiwanese firms, which shows that Taiwan investors focus on the earnings quality of firms and punish firms which involved in earnings management. A Study on Jordanian stock has a significant relationship between earning management and stock price liquidity (Arar *et al.*, 2018).

In contrast, another group of researchers provide the view that earnings management has a positive impact on stock returns. Firms release false accounting statements and investors are unable to identify the manipulations portions of the earnings. Sun (2009) in the research states that although investors are rational but are unable to correctly filter the contents of earnings which are manipulated hence causing price distortion in the market. The honest firms are undervalued and firms that practice earnings management being overpriced. In another similar research in the market of Kenya shows that there is a positive relationship between earnings management and share returns (Ngunjiri, 2017). Rabin and Negash (2014) in their study for South Africa conclude a negative impact to share prices for firms that did not practice earnings management as the market reduces share prices for loss-making firms. In Kan (2018) study on capital market offences, he concludes that false or misleads accounting statement is the most common type of capital market offence in Malaysia and contends that this is due to the effects of a positive impact of share prices in the short run.

Some researches were unable to conclude on the relationship between earnings management and stock return. Cudia and Dela Cruz (2018) conducted the study in the Philippines found no significant association between earnings management and stock returns in the Philippines due to the lack of concerns and facility of investors to identify earnings management. Rabin and Negash (2014) concluded that investors in South Africa are unable to detect earnings management.

Differences in the reactions of the market towards earnings management are being explained by the ability to identify earnings management through readability of accounting report (Lo *et al.*, 2017) and the disclosure of information which facilitates the readers in

distinguishing the earnings management portions (Baber *et al.*, 2006). Literature suggests the importance of financial reporting quality in determining investor reactions. In Malaysia, the quality of financial reporting is perceived as lagging due to political influence (Mohammed *et al.*, 2016). On the other hand, Rahman *et al.* (2013) show that investors tend to invest in companies which are profitable and stable share prices. To maintain these two features, companies will use the earnings management to reach the expectation of stock market analysts.

From the above literature on earnings management, investors may make better decisions when they are able to identify earnings management. However, Malaysia is perceived to be lagging in financial reporting quality (Mohd Fadzilah, 2017) and investor might not be able to detect earnings management in firms and adjust investing decision accordingly. Thus far, there are no strict rules in term of earnings announcements for Malaysian firms. However, this might contribute to information asymmetry to investors and affect the stock returns accordingly. The study proposes that:-

H2: There is a positive relationship between stock returns and earnings management

3.0 Research Methodology

There are three main variables in the research which are annual stock returns (ASR), earnings management (EM) and exchange rate movements (ER). This research mainly focuses on studying the relationship between these three variables.

The study used a total population of 893 non-financial firms listed on Bursa Malaysia from 2012 to 2016. The study was conducted on the usage of secondary data. The sample of firms in the study did not include firms from regulated industries such as banking and financial product firms where tight regulatory regimes bind these industries. The data were extracted from the Data Stream database with all complete and available yearly information for the study

Hypothesis 1 aims to study the relationship between earnings management (EM) and exchange rate movements (ER). Testing of the hypothesis involved three main procedures. First, to identify the total accruals of the period; second, to identify the earnings management, and third, to perform regression analysis and identify the relationship of earnings management and exchange rate movements with the presence of control variables. The control variables are the return on assets ratio (ROA), firm size (FS), cash to total assets ratio (CTA) and debt-equity ratio (DER). Control variables which representing business characteristics were included due to their likely impact on firms' performance.

Discretionary accruals ($DAC_{i,t}$) are identified as the proxy of accounting-based earnings management in this paper. The modified Jones Model is being applied to compute the $DAC_{i,t}$ which in line with prior studies (Chu and Song, 2012).

Following Chen (2010), the first step is to identify total accruals in period t using the equation below:

$$ACCR_{i,t} = NI_{i,t} - CFO_{i,t} \tag{1}$$

$ACCR_t$ represents total accruals of listed firms while NI_t represents net income and finally $CFO_{t\ represents}$ operating cash flow. The second step is to apply Modified Jones Model (1991), cited in Zang (2012) to estimate the level of normalised accruals as follows:

$$\frac{ACCR_{i,t}}{TA_{i,t-1}} = \alpha\left(\frac{1}{TA_{i,t-1}}\right) + \beta\left(\frac{\Delta REV_{i,t} - \Delta REC_{i,t}}{TA_{i,t-1}}\right) + \gamma\left(\frac{PPE_{i,t}}{TA_{i,t-1}}\right) + e_{i,t} \tag{2}$$

in which $TA_{i,t-1}$ refers to total assets at the period t-1, $\Delta REV_{i,t}$ is the change in net revenue, $\Delta REC_{i,t}$ is the change in net receivables, and $PPE_{i,t}$ refers to the book value of property, plant and equipment.

The estimated residual of the equations, $e_{i,t}$ is the proxy for discretionary accruals (DAC) for this study. The exchange rate movement (SAFX) is the changes of the yearly average quarterly exchange rates (AFX). The computation formula is shown as below:

$$SAFX = (AFX_t - AFX_{t-1})/AFX_{t-1} \tag{3}$$

The regression equation analysis between exchange rate movements (ER) on earnings management (EM) is as below:

$$DAC_{i,t} = a_i + \alpha_{2i}(SAFX_t) + \alpha_{3i}ROA_{i,t} + \alpha_{4i}FS_{i,t} + \alpha_{5i}CTA_{i,t} + \alpha_{61}DER_{i,t} \tag{4}$$

where DAC is subjected to (DAC),

$$f(DAC) = \{DAC > 0 \,; DAC < 0 \,\}, \text{respectively} \tag{4.1}$$

The relationship between ER and EM can be identified using the coefficients of SAFX $_{it}$, whether it is a positive relationship or negative relationship. Due to the presence of positive earnings management (positive $DAC_{i,t}$) and negative earnings management (negative $DAC_{i,t}$) from the $e_{i,t}$, the residual from the equation (2), regression analysis is performed separately according to the two different scenarios in equation 4. The exchange rate movement (SAFX) was computed based on year to year changes for the average quarterly exchange rates (equation 3). In the study when SAFX having a negative coefficient, it means there is a strengthening of the exchange rate for the Malaysian Ringgit. For example, when MYR strengthen against USD from 4 to 3.8, the SAFX would be shown as -0.05 and vice versa when MYR is weakening. The regression was initially performed on DACt>0 representing positive earnings management in line with hypothesis 1 that cited positive $DAC_{i,t}$ when $SAFX_{i,t}$ weakened. Subsequently, another test was done to study the phenomena when negative $DAC_{i,t}$ when $SAFX_{i,t}$ strengthened. Finally, hypothesis 2 which aims to investigate the relationship of earnings management and annual stock returns (ASR) will be adopting the regression analysis (equation 5). Following the empirical model of Cudia and Dela Cruz (2018), four variables, return on assets (ROA), firm size (FS), cash to assets (CTA) and debt equity ratio (DER) are used as controlled variables. The regression equation is as below:

$$ASR_{i,t} = \alpha_i + \alpha_{2i}DAC_{i,t} + \alpha_{3i}ROA_{i,t} + \alpha_{4i}FS_{i,t} + \alpha_{5i}CTA_{i,t} + \alpha_{61}DER_{i,t} \tag{5}$$

ASR is defined as annual stock returns, which represents the percentage of changes in stock price. Hypothesis 2 has presumed that ASR reacts positively with DAC in which earnings management tends to improve annual stock returns. Table 2 summarizes variables used in the research and some brief explanations or method to compute the variables.

Table 3 summarizes all the industries involved in the research and the total number of firms in these industries. The top 5 industries with the largest number of firms are Construction and Materials (111 firms, 12.43%), Food Producers (85 firms, 9.52%), Real Estate Investment and Services (85 firms, 9.52%), followed by software and computer services (57 firms, 6.38%) and finally industrial engineering (53 firms, 5.94%).

Table 2: Variables used and measurements

Variable	Type	Definition
Discretionary Accruals (DAC)	Dependent (H1) Independent (H2)	Non-mandatory expenses yet to be realized recorded in book. The residual from equation (2)
Annual Stock Returns (ASR)	Dependent (H2)	Annual stock returns representing the percentage of changes in share prices of the year t with the year t-1
Changes of Average Foreign Exchange rates (SAFX)	Independent	The changes of the annual average quarterly exchange rates of MYR per USD.
Return on Assets (ROA)	Control	Percentage of income generated with available total assets.
Firm Size (FS)	Control	Firm size computed as log total assets.
Cash to Assets Ratio (CTA)	Control	Total cash divided by total assets.
Debt to Equity Ratio (DER)	Control	Total debt divided by total equity.

Table 3: Firms composition by industries

Industry Sector	Number of Firms	Composition by Industry
Construction and Materials	111	13.23%
Food Producers	85	10.13%
Real Estate Investment and Services	85	10.13%
Software and Computer Services	57	6.8%
Industrial Engineering	53	6.32%
Electronic and Electrical Equipment	39	4.65%
Household Goods and Home Construction	37	4.41%
Personal Goods	37	4.41%
Support Services	36	4.29%
Industrial Metals and Mining	33	3.93%
Industrial Transportation	33	3.93%
General Industrials	32	3.81%
Travel and Leisure	32	3.81%
Chemicals	29	3.46%
General Retailers	26	3.09%
Oil Equipment and Services	24	2.86%
Technology Hardware and Equipment	23	2.75%
Automobiles and Parts	20	2.39%
Health Care Equipment and Services	13	1.55%
Media	12	1.43%
Forestry and Paper	11	1.31%
Gas, Water and Multiutilities	11	1.31%
Total	839	100%

4.0 Findings

Table 4 presents descriptive statistics for the listed firms in the study. On average, the annual stock returns for all the firms are 14.21% for the period from 2012 to 2016. The mean of -0.0257, and median of -0.0249 in the discretionary accruals showing that most of the sample firms (544 firms) utilize negative earnings management. There are firms with maximum discretionary value of 5.9373 and minimum value of -5.7638, reflecting a quite balance earnings management in the country. On the other hand, the changes of average exchange rates for Malaysia stay at the mean of 5.7% against the US dollar, and with the maximum value of 18.06%, reflecting the consistent weakening of MYR during the period. For the control variables, with the exception of ROA and debt-equity ratio, the variation among the observations are consistent within one standard deviation.

Table 4: Descriptive statistics

Variable	Mean	Median	Maximum	Minimum	Std. Dev.
ASR	0.1421	0.0300	11.8300	-1.0000	0.5686
DAC	-0.0257	-0.0249	5.9373	-5.7638	0.2130
SAFX	0.0568	0.0427	0.1806	-0.0250	0.0706
ROA	-0.0126	0.0305	6.4948	-103.5173	1.7106
FS	5.5887	5.5479	8.1234	2.2253	0.7067
CTA	0.0818	0.0505	0.9998	0.000026	0.1035
DER	0.8186	0.5540	59.4785	-174.3108	3.2877

Table 5 shows the correlation matrix of the variables in the study. None of the variables shows high correlations among each other. From the table, discretionary accruals (DAC) has a positive relationship with the annual stock returns, which indicates that there is possibility that earnings management is used to enhance stock returns. This initial finding is consistent with the negative relationship of the changes of average exchange rate (SAFX) and DAC, as the weakening of exchange rate leads to a higher earnings management. The subsequent regression analysis will further confirm our analysis.

Table 5: Correlation

	ASR	DAC	SAFX	ROA	FS	CTA	DER
ASR	1.0000						
DAC	0.0545	1.0000					
	(3.3979)***	-					
SAFX	-0.1745	-0.0135	1.0000				
	(-11.037)***	(-0.8378)	-				
ROA	-0.0148	0.1932	-0.0300	1.0000			
	(-0.9211)	(12.266)***	(-1.8664)*	-			
FS	-0.0851	0.1126	0.0429	0.1006	1.0000		
	(-5.3230)***	(7.0609)***	(2.6748)***	(6.3012)***	-		
CTA	0.0399	-0.0380	0.0905	-0.0180	-0.1865	1.0000	
	(2.4858)**	(-2.3662)**	(5.6614)***	(-1.1234)	(-11.826)***	-	
DER	-0.0174	-0.0393	0.0237	0.0093	0.0493	-0.0326	1.0000
	(-1.0863)	(-2.4487)**	(-1.4759)	(-0.5764)	(-3.0757)***	(-2.0299)**	-

Notes: *** Significant at 1% level, ** Significant at 5% level,* Significant at 10% level. t-statistics are in parentheses.

There is a positive relationship between firms returns (ROA) and firm size with discretionary accruals, respectively. Implying that DAC could be used to improve company financial performance, and subjected to the firm's size. Nonetheless, there is a negative correlation between annual stock returns with returns on assets, firm size and debt-equity ratio, respectively. These may be explained as return on assets, firms size and debt-equity are accounting variables derived from past performance of the firms, however, stock returns reflect expectations for future performance of the firms which may incorporate the issues of corporate governance, progress for future and investors' confidence.

Table 6 shows the models computed using Equation (4), and based on the positive value of DAC (equation 4.1). There are 295 firms reported positive discretionary accruals. The first model consists of ROA as the control variable while for the subsequent models, firm size, cash to assets ratio and debt-equity ratio are added separately into the models. The reason for performing multiple computations with the presence of different control variables, which are the proxy variables for financial constraints, is to ensure that the control variables are not the factors that significantly impact the results.

Table 6: Positive earnings management (DAC>0) and exchange rate movements

Variable	Model 1	Model 2	Model 3	Model 4
C	0.0560***	0.2772***	0.2792***	0.2795***
	(5.6402)	(3.7013)	(4.2917)	(4.2890)
SAFX	0.1306**	0.1578***	0.1848***	0.1851***
	(2.3155)	(2.7837)	(3.4611)	(3.4601)
ROA	0.5999***	0.5999***	0.6168***	0.6168***
	(33.7329)	(34.0258)	(36.6957)	(36.6800)
FS		-0.0399***	-0.0392***	-0.0393***
		(-2.9790)	(-3.4295	(-3.4286)
CTA			-0.2285***	-0.2286***
			(-4.0257)	(-4.0254)
DER				-0.0001
				(-0.1072)
R-squared	0.3653	0.3684	0.4246	0.4246
Adjusted R-squared	0.3644	0.3672	0.4229	0.4226
S.E. of regression	0.1526	0.1522	0.1394	0.1394
F-statistic	423.7141	286.1195	262.1511	209.6108
Durbin-Watson stat	1.653	1.659	1.669	1.662
Observations- firm- years	1475	1475	1475	1475
Firms	295	295	295	295

Notes: *** Significant at 1% level, ** Significant at 5% level,* Significant at 10% level. T-statistics are in parentheses. The reducing number of firms is due to missing variables. The number of years applied is 4, as there is lag year in computing discretionary accrual.

Further analysis of Equations (4) explains that when all other variables are held at constant zero, discretionary accruals variable reflects the value of 0.2795 and an additional 10% increase in changes of average foreign exchange rates increases discretionary accruals by 1.85 when the return on assets, firm size, and cash to assets and debt-equity ratio are held constant.

On top of that, the t-test for changes in exchange rates, SAFX explains that changes in exchange rates are significant in this study. The t-test result of more than 2.85 concludes that exchange rate movements are significant at the confidence interval of 99%.

Comparing the R-squared values for all the models, the largest R-squared is found in Model 4 which supports that Model 4 is best used to explain the relationship of exchange rate movements with earnings management. The result is significant during the weakening of Malaysia ringgit as many of Malaysia firms engage in international transactions. The weakening of exchange rates reduces the profits of the firm resulting in firms conducting earnings management to cover up the reduced profits. Thus, hypothesis 1 is supported.

Due to various reasons such as CEO incentives (Bergstresser and Philippon, 2006), the pressure from shareholders to present good results (Hamid *et al.*, 2012), beating analysts' threshold (Mindak *et al.*, 2016) and others, a firm's management engages earnings management to improve their earnings results when their earnings slowed down due to the impact of exchange rates. The scenario can be further explained using positive accounting theory where a firm's management team intends to adopt accounting policies to manage earnings in situations which are not favourable to the firm's overall performance such as weakening of the domestic currency. However, this also creates the issues of information asymmetry as earnings management disrupts the market efficiency and provides wrong valuations on the firm's performance. To further confirm that firms practice upward earnings management when there is the weakening of the home currency. In table 7, the study applied equation (4) and equation (4.1) for firms engage in negative discretionary accruals. The negative coefficient of SAFX appears to be in line with the hypothesis that explains firms engaged downward earnings management when the exchange rates

strengthened. However, based on the t-test results, which is less than 1.65 in each of the models for changes in the exchange rates indicating that exchange rates are not significant for the sample with negative earnings management. The insignificant findings could be justified as the frequencies of depreciation of the Malaysian Ringgit prevail than the chances of appreciation, and therefore there is no influence on downward earnings management.

Table 7: Negative earnings management (DAC<0) and exchange rate movements

Variable	Model 1	Model 2	Model 3	Model 4
C	-0.0878***	-0.4135***	-0.3663***	-0.3645***
	(-17.400)	(-12.661)	(-11.862)	(-12.128)
SAFX	-0.0416	-0.0734*	-0.0595	-0.0592
	(-0.9380)	(-1.6609)	(-1.4030)	(-1.4072)
ROA	0.0072***	0.0058***	0.0057***	0.0067***
	(6.7776)	(5.4468)	(3.7048)	(4.4384)
FS		0.0592 ***	0.0525***	0.0525***
		(10.0923)	(9.6498)	(9.8653)
CTA			-0.1120***	-0.1133***
			(-3.4226)	(-3.5281)
DER				-0.0017
				(-1.1247)
R-squared	0.0140	0.0449	0.0373	0.0396
Adjusted R-squared	0.0133	0.0438	0.0358	0.0378
S.E. of regression	0.1742	0.1726	0.1746	0.1761
F-statistic	19.1322	42.1042	24.9414	21.2242
Durbin-Watson stat	2.2427	2.2623	2.2888	2.2794
Observations-firms-years	2720	2720	2720	2720
Firms	544	544	544	544

Notes: *** Significant at 1% level, ** Significant at 5% level,* Significant at 10% level. t-statistics are in parentheses. The reducing number of firms is due to missing variables.

Nonetheless, the result is consistent with the study conducted on downward earnings management by Makarem (2015). They show that firms' managements tend to utilize real activities earnings management to manage earnings downwards instead of discretionary accruals. Badertscher *et al.* (2009b) further support the phenomenon of tax-motivated downward earnings management being accomplished via real activities earnings management to avoid accounting irregularities. The results show that strengthening of foreign exchange does not have a significant relationship with earnings management. Theoretically, strengthening of exchange rates will increase the firm's profit due to higher purchasing power in the market. However, firms will not necessarily have the intention to perform downward earnings management to reducing the firm's earnings.

By performing downward earnings management to forcibly lower down earnings during the period raises concerns on underpayment of tax to domestic tax authorities and increases the risk of tax penalty if firms are selected for the tax audit. In contrast, to manage earnings upwards, firms need to pay more tax due to higher earnings; hence, it reduces the risk of tax underpaid. Evaluating the negative impact of tax penalty brings to the firms, future performance and investor confidence; management would prefer not to go for downward earnings management.

In summary, the results show that firms use earnings management practices to increase periodic earnings when they face with market uncertainties such as weakening of the exchange rates. This results in higher annual stock returns for the firm. The results prove that the market reacts positively with earnings management in Bursa Malaysia. In other words, investors in Malaysia prefer stocks with higher reported earnings regardless of whether the firms are practicing earnings management. This situation can be explained

through the consequence of information asymmetry on investors' understanding of earnings management due to the low quality of financial disclosures. In a developing country such as Malaysia, financial systems are not so well established, and the presence of political and economic instabilities hinders the stock markets to be continuously efficient. In order to test hypothesis 2, equation (5) is used to assess the relationships between discretionary accruals (DAC) and annual stock returns (ASR). Discretionary accruals values were obtained by using equation (2), and annual stock returns values were obtained using changes in stock prices comparing year t with t-1. Similar to the testing of hypotheses 1, control variables are added gradually to ensure the compliance of financial constraint absence scenario. The results are tabulated in Table 8 as below.

Table 8: Discretionary accrual and stock returns

Variable	Model 1	Model 2	Model 3	Model 4
C	0.1493***	0.5719***	0.5222***	0.5216***
	(16.3796)	(7.9147)	(6.8687)	(6.8587)
DAC	0.1484***	0.1707***	0.1836***	0.1824***
	(3.7534)	(4.3150)	(4.2106)	(4.1775)
ROA	-0.0002	0.0021	-0.0063	-0.0062
	(-0.0742)	(0.5984)	(-1.1606)	(-1.1527)
FS		-0.0758***	-0.0692***	-0.0689***
		(-5.8949)	(-5.2537)	(-5.2191)
CTA			0.1432	0.1419
			(1.6054)	(1.5901)
DER				-0.0016
				(-0.5944)
R-squared	0.0035	0.0120	0.0124	0.0124
Adjusted R-squared	0.0030	0.0113	0.0113	0.0112
S.E. of regression	0.5763	0.5739	0.5653	0.5654
F-statistic	7.2408	16.4508	12.1715	9.8062
Durbin-Watson stat	1.9483	1.9676	1.9484	1.9495
Observations	4195	4195	4195	4195
Firms	839	839	839	839

Notes: *** Significant at 1% level, ** Significant at 5% level,* Significant at 10% level. t-statistics are in parentheses.

The regression result in table 8 is performed in accordance to equation (5). In Table 8, when all the variables in the equations are set at constant zero, annual stock returns (ASR) is at 0.52161. The results also show that a 10% increase in discretionary accruals (DAC) provides an increase in annual stock returns by 0.018243 when other variables, return on assets, firm size, and cash to assets, and debt-equity ratio all remain at constant zero.

Discretionary accruals (DAC) variable provides a positive relationship with annual stock returns (SAR) and from the t-test value, DAC also appears to be significant at the 1% level with a confidence interval of 99%. This result aligns with the hypothesis 2 which explains that discretionary accruals have a positive impact on annual stock returns and are significantly impacting it. Hence, this concludes that hypothesis 2 is supported.

5. Conclusion
This study attempts to provide evidence on how the exchange rate movements motivate firms' management to practice earnings management and how does earnings management could impact share returns for firms listed on Bursa Malaysia using financial data from the year 2012 to 2016. Exchange rate movements are measured as year to year changes for the average quarterly exchange rates. The discretionary accruals are the proxy for earnings management, and stock returns are the changes of shared prices.

The first objective of the study investigates the relationship of earnings management and exchange rate movements, the results indicate a monotonic relationship between both variables. The finding signifies the intention of firms to manipulate earnings when the firms are experiencing adverse impact from exchange rate movements. However, the relationship does not extend to the situations when the exchange rate is strengthening. There is no significant correlation between exchange rates strengthening and earnings management. This phenomenon is explained by other literature that downward earnings management are not preferable to be practiced through accounting-based earnings management but through real activity based earnings management to avoid compliance risk, especially on tax reporting (Badertscher *et al.*, 2009a) In concluding the results on the first part of hypothesis testing, earnings management does present significant relationship with foreign exchange when the exchange rates are weakening showing firms' intention to manage earnings in unfavourable situations. However, earnings management does not present a significant relationship with foreign exchange when exchange rates are strengthening due to firms prefer other approaches such as capital investment to lower the earnings.

The second objective of the study found a positive relationship between annual stock returns and earnings management which is contradicting with some literature which support a negative relationship between earnings management and stock returns. It appears that investors in Malaysia lack of concerns towards earnings management, and therefore invest in firms with earnings management that does not reflect true value. Information asymmetry exists and the market appears to be inefficient due to earnings management distorts the equilibrium in the stock market. There are no firm reasons on the lack of response, however according to the study by Gavious (2007), investors do not possess the ability to distinguish earnings management and most of the time they depend on the analysts to reassess the earnings quality. Before the analysts responded on the earnings quality, earnings management by firms continues to mislead investors. Other factors that could lead to earnings management and responses from Malaysian investors might be varied and will need to be further explored in future research.

Additionally, the results of this research are being studied using Malaysian listed firms data only and may not generalize to other economies. Other potential research in future lays in investigating earnings management motivations by sector of firms. This will help to provide a more thorough explanation of why firms engage earnings management and how do investor react to those firms in particular sectors, especially those industries which are volatile to the microenvironment.

This study benefits investors by signalling that exchange rate movements do motivate earnings management practices and will finally impact annual stock return. This study also provides a new perception to investors that earnings management are widely used around the world including Malaysia as well and published earnings shall be re-evaluated to true earnings by disentangling earnings management to provide an actual view of the firms performance.

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