

## Detecting Earning Manipulation Using the Beneish M-Score Model: Evidence from Public Listed Companies in Malaysia

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Received 4<sup>th</sup> December 2022, Revised 25<sup>th</sup> January 2023, Accepted 6<sup>th</sup> February 2023

### ABSTRACT

*This paper aims to examine the association between earning manipulation using the Beneish M-Score Model and share price with market capitalisation as the control variable among public listed companies (PLCs) in Malaysia. The study was performed over a four-year period from 2017 to 2020 using the financial data of 65 PLCs under the Financial Times Stock Exchange (FTSE) Bursa Malaysia Top 100 Index, including various industries except the financial service industry. The Beneish M-Score Model comprised eight variables or ratios to identify earning manipulations, namely Days Sales in Receivable Index (DSRI), Gross Margin Index (GMI), Asset Quality Index (AQI), Depreciation Index (DEPI), Sales Growth Index (SGI), Sales, General and Administrative Index (SGAI), Total Accruals to Total Assets (TATA), and Leverage Index (LVGI). The market price was measured using the year-end share price. The findings found that there was a weak negative association as well as a statistically insignificant relationship between earning manipulation and share price, which suggests that earning manipulation is influenced by other factors excluding share price. The findings did not support the argument that there was a significant relationship between earning manipulation and share price where companies had been discovered to have engaged in earning manipulation. The study is crucial for the stakeholders that expect companies to achieve the maximum returns and stability in investments and to protect owners' rights.*

**Keywords:** Beneish M-Score Model, Earning Manipulation, Share Price, Malaysia Stock Market

### 1. INTRODUCTION

Financial statement frauds involve information manipulation used during financial statement preparation which is published for the public or other related parties. The frauds are usually performed to prove firms' accomplishment of the financial goal, sales volume, or budget forecasts. The planned outcome raises the share price of the PLCs or acquires finance status for favourable conditions, such as the stock return. Nonetheless, the outcomes may be manipulated to depict a lower taxable income to reduce the tax liabilities (Oyedokun, 2018). According to Agustia et al. (2020), earning manipulation activities can threaten a sound financial market. Beneish (1999) stated in their studies that the consequences that come from earning manipulation can lead to a decreased in share price, loss of confidence in the financial markets and therefore, caused financial sector instability. On the other hand, financial statement fraud is an intentional attempt to falsify the financial status of a company with bad intention to mislead the user of the financial statement (Repousis, 2016). Therefore, there is a need to ensure the quality of earnings being published in the financial statements as it was the major concern of countless researchers and the end user of financial statements.

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The Association of Certified Fraud Examiners (ACFE) between 2012 and 2020 found that the case percentage on global financial statement fraud scheme increased over the years by 7.6% (median loss USD 1 million), 9% (median loss USD 1 million), 9.6% (median loss USD 975,000), 10% (median loss USD 800, 000), and 10% (median loss USD 975,000), respectively. Meanwhile, the financial statement fraud in the Asia Pacific region depicts an increase over the years by 9.3%, 9.6%, 10.9%, 13%, and 14%, respectively. Concerns about the increasing rate of frauds the world over has led to a rise in the demand for forensic accounting (Rezaee et al., 2019; Stephen et al., 2021).

Many studies examine the impacts of earning manipulation but the findings are contradictory and inconsistent. Kamal et al. (2016), Alfian et al. (2018), and Talab et al. (2018) discovered that the Beneish M-Score Model can detect financial reporting. Nevertheless, some studies found no indicated incidence of earning manipulation (Adu-Gyamfi, 2020; Arman et al., 2019; Taherinia & Talebi, 2019). Therefore, the subject should be further investigated to elaborate on using the Beneish M-Score Model for earning manipulation detection.

Past studies on earning manipulation and share price suggest a negative relationship between earning manipulation and share price or stock returns. Moreover, the companies engaged in earning manipulation activities generally experience declining shares (Beneish, 1999; Christianto & Budiharta, 2014; Nuryaman, 2013). Contrarily, Lutfi et al. (2016) and Zhu and Lu (2013) discovered a positive relationship between the two variables. Similarly, Ajina and Habib (2017) noticed that companies with higher share price opt to manage the company activities. Furthermore, few Malaysian studies analyse earning manipulation and share price.

Due to mixed results on earning manipulation, the study examined the likelihood of earning manipulation detection by utilising the Beneish M-Score Model and investigated the relationship between earning management and share price with market capitalisation as the control variable among PLCs in Malaysia.

## **2. LITERATURE REVIEW**

### **2.1 Beneish M-Score Model**

Beneish (1999) was the first to apply the M-Score Model to detect earning management, hence, the model was named after Beneish. Beneish (1999), described earning manipulation as a condition where the company management violates the principles of the Generally Accepted Accounting Principles (GAAP). The violation is performed to present firms' positive financial performance by deflating or inflating figures in the financial statement through reducing expenses or increasing revenues.

Omar et al. (2014) examined and analysed a detection method for a committed fraud. Kamal et al. (2016) also applied the Beneish M-Score Model as a tool in the forensic accounting field to assess the possibility of earning manipulation in the company financial statement. The study emphasised that the model is a detection tool that successfully detected financial statement fraud caused by earning manipulation. The model is also effective to detect earning manipulation as 76% of the companies in the study were engaged in earning manipulation.

Repousis (2016) found that 33% of the sample study were engaged in earning manipulation, suggesting that the companies were possible manipulators. The study also noted a significant relationship between earning management based on the Beneish M-Score. Four out of eight variables in the model revealed a significant relationship, namely DSRI, AQI, SGAI, and LVGI. The highest statistic was DSRI at 95.92% of the variation in the Beneish M-Score. The study further highlighted the significance of the results for the banking system as the figures in financial

statements can influence bank credit decisions. Debt agreements usually comprise terms based on the accounting numbers in the financial statement.

Sutainim et al. (2021) found only three ratios were significantly different for manipulators and non-likely manipulators companies. Specifically, SGI, TATA and DSRI were associated with the inflation or overestimation of sales and revenues and accruals. The findings indicate earning manipulation in Malaysian PLCs. The results signify the M-Score predictability and reliability in detecting the possibility of earning manipulation.

Taherinia and Talebi (2019) predicted financial statements fraud according to the economic situation in Iran. The study found that the Beneish M-Score variable was negative and significant in detecting the possibility of financial statement fraud of firms operating pharmaceutical products, materials industry, and the automotive and component industry. Conversely, Arman and Sharmin (2019) found a negative relationship with the probability of earning manipulation as a company holds a higher chance of earning manipulation if the company was long incorporated. Nonetheless, once the company is listed, the company faces increased pressure of corporate governance which lowers the possibility of manipulating financial statements.

Adu-Gyamfi (2020) highlighted that the Beneish M-Score Model is an effective tool to detect the occurrence of earning manipulation in listed companies in Ghana. The findings revealed that several companies were involved in creative accounting from 2011 to 2016. Nonetheless, most companies in the sample did not engage in earning manipulation over the years except for 2011. On average, only 26.2% of the companies manipulated earnings between 2011 and 2016. The result aligned with Beneish et al. (2011), Beneish (1999) and Omar et al. (2014) which confirmed the usefulness of M-score in detecting earning manipulation.

Past findings proved firms inherent desire to intentionally engage in earning manipulation due to numerous reasons. Therefore, financial statements must be continuously verified despite the outward financial performance (Dichev et al., 2016). Accordingly, the study examined the likelihood of earning manipulation using the Beneish M-Score Model.

## **2.2 The Relationship between Earning Manipulation and Share Price**

Healy and Wahlen (1999) emphasised that the extensive use of accounting information in the financial statement by end-users such as investors and financial analysts to evaluate stocks encouraged managers to manipulate earnings. Managers tend to stimulate short-term stock price performance to increase company value while ignoring the long-term effects of earning manipulation. Correspondingly, Graham et al. (2005) noted 73.5% of the participant comprising 400 chief financial officers were willing to sacrifice their long-term economic value in exchange for smooth earnings in the short term to sustain or increase company stock price.

Chang et al. (2019) stated that the earning management practices aimed to achieve short-term benefits for the companies, which were unfavourable to outside investors. Furthermore, past studies revealed that firm senior managers tend to use accrual-based earning management to increase or decrease the earning figures in the financial statement (Almadi & Lazic, 2016; Bansal & Ali, 2021; Qawasmeh & Azzam, 2020). Hence, incorrect earning figures reported on company financial statements are unfavourable to investors. The investors would feel tricked into buying overvalued stocks or selling undervalued stocks according to the manipulated earning figures leading to unwarranted losses (Katmon & Farooque, 2017; Martínez-Ferrero et al., 2016).

Studies reported a negative relationship between earning manipulation and share price. Companies that engage in earning manipulation activities generally face declining share price (Beneish, 1999). The situation occurs as earning manipulation due to earning management adversely impacts the stock returns, thus reducing the stock prices (Nuryaman, 2013).

Christianto and Budiharta (2014) confirmed the negative relationship by suggesting that earning manipulation measured by the Beneish M-Score Model negatively influences the stock price and eventually impacts the stock returns.

Contrarily, Lutfi et al. (2016) found that real activity manipulation to increase current period earning directly impacts the share price. Zhu and Lu (2013) added that company managers intentionally altered the earning figures to increase the company value before mergers and acquisitions, thus suggesting a positive relationship between earning manipulation and share value. Similarly, Ajina and Habib (2017) found that companies with higher share price opt to manage the company activities.

### **2.3 Agency Theory**

The current study applied the Agency Theory regarding earning manipulation through earning management activities. The Agency Theory clarifies and resolves issues on the relationship between business principals and the agents. Generally, the relationship concerns shareholders as the principals and company executives as the agents. Principals usually delegate the decision-making power to the agents. As agents make decisions that influence the principal financially, disagreements of opinion and even disparities in interests and priorities could occur. Therefore, the Agency Theory describes that the priorities and interests of a principal and the agent do not always align.

The Agency Theory outlined by Jensen and Meckling (1976) denotes that possession of shares by management motivates the management to address shareholders' concerns. Management opportunistic behaviour that increases discretionary accruals impacts the reported profits in the financial statement. In an efficient market, an increasing figure of profits causes the market to respond positively. Therefore, increasing stock prices increase simultaneously raises the stock returns.

Sukartha and Andini (2020) explains that the agency theory is the relationship or agreement between the principal and the agent. The principal usually appoints the agent to perform tasks to fulfil the former interest. The principal in a business entity is the shareholder, while the agent is the Chief Executive Officer (CEO). Strengthening and increasing the company stock price and stock return in the financial market is crucial for the business entity to present good future prospects. The business entity expects higher stock prices through the management judgement and decision. The structure is used to communicate internal information, such as the current and past financial position.

Omush et al. (2019) stated that business entity symbolises a group of individuals with different affiliation and roles comprising shareholders, management, workers and related parties. The diversity in the interests of the related party is one of the primary reasons that motivate the rise in the conflict of interests which can influence the management to disclose information that pleases its interest. This is done by disclosing the data that signify the company's accomplishment by disclosing high revenues since management rewards are regularly associated with the outcomes of its financial performance. The interest of the principles represents by the existing shareholders, potential investors, and other concerned individuals in finding and obtaining reliable financial data about the company to know the actual financial position therefore can be explained through the Agency Theory.

### **2.4 Hypotheses Development**

Past studies on the relationship of earning manipulation and share price noted a negative relationship between the two variables. Some study indicated that earning manipulation was done by deflating and inflating the earnings which affected the share price (Almadi & Lazic, 2016;

Bansal & Ali, 2021; Qawasmeh & Azzam, 2020). Beneish (1999) also stated that this practice violates the principles specified in the Generally Accepted Accounting Principles (GAAP). This is consistent with Nuryaman (2013) and Christiano and Budiharta (2014) where they proposed that earning manipulation through earning management negatively influences the stock returns which cause in decreased of the stock prices.

However, some previous studies found positive relationship where companies that manipulated their earning using earning management tend to have higher share price to raise the value of their companies. Lutfi et al. (2016) discovered that real activity manipulation was performed to boost current earning has direct impact on the share price. This is consistent with Zhu and Lu (2013) where they claimed that company managers deliberately altered the earnings to increase the value of their companies before mergers and acquisitions, therefore implying a positive relationship between earning manipulation and share value. Ajina and Habib (2017) also supported this statement as they noticed companies that have higher share price tend to opt to manage their activities.

On the contrary, a study done by Adu-Gyamfi (2020) found weak association as well as there are statistically insignificant relationships between earning management and share price. Since previous studies have shown inconsistencies in their findings, this study attempted to scrutinise the relationship between earning manipulation and share price. In order to investigate the association of earning manipulation represented by Beneish M-Scores towards share price is by computing it from the sampled listed companies and their year-end share price respectively. This study also used market capitalisation as the control variable. Therefore, the study hypothesised that The Beneish M-Score of PLCs in Malaysia significantly influence the company share price.

### 3. METHODOLOGY

The study applied quantitative analysis to examine the likelihood of earning manipulation detection in PLCs in Malaysia. The measurement of each variable was based on past studies among 65 PLCs under the FTSE Bursa Malaysia Top 100 Index of the Malaysia Stock Exchange from 2016 until 2020. The Beneish M-Score Model was employed to identify the likelihood of earning manipulation detection. Meanwhile, the study used the regression analysis to examine the relationship between earning manipulation and share price with market capitalisation as the control variable in the PLCs in Malaysia. The quantitative study employed simple random sampling and is secondary in nature. Therefore, the study used financial information collected from audited annual financial statements of the sampled companies from the company websites and Malaysian stock exchange website (Bursa Saham).

#### 3.1 Variable Measurement

##### 3.1.1 Independent Variable: Beneish M-Score Model

The presence of earning manipulation amongst the samples of 65 PLCs in the FTSE Bursa Malaysia Top 100 Index were tested using the Beneish M-Score Model. According to Adu-Gyamfi (2020), Beneish (1999) and Talab et al. (2018), the Beneish M-Score Model is computed with financial data collected from annual financial statements to detect earning manipulation. The Beneish M-Score Model formula utilised in this study is as follow:

$$M = -4.84 + (0.92*DSRI) + (0.528*GMI) + (0.404*AQI) + (0.892*SGI) + (0.115*DEPI) - (0.172*SGAI) + (4.679*TATA) - (0.327*LVGI). \quad (1)$$

Where:

DSRI (Days' Sales in Receivables Index) =  $(\text{Net Receivables}_t / \text{Sales}_t) / \text{Net Receivables}_{t-1} / \text{Sales}_{t-1}$ . The DSRI is computed by dividing days' sales in receivables in the current year (t) by days' sales in receivables in the previous year (t-1). Any large increase in DSRI could be an indication of revenue inflation.

GMI (Gross Margin Index) =  $[(\text{Sales}_{t-1} - \text{Cost of Goods Sold}_{t-1}) / \text{Sales}_{t-1}] / [(\text{Sales}_t - \text{Cost of Goods Sold}_t) / \text{Sales}_t]$ . Gross Margin Index is computed by dividing gross margin in the previous year (t-1) by the gross margin in the current year (t). GMI that is above 1 indicates deterioration in gross margin.

AQI (Asset Quality Index) =  $[1 - (\text{Current Assets}_t + \text{Plant, Property \& Equipment}_t + \text{Securities}_t) / \text{Total Assets}_t] / [1 - ((\text{Current Assets}_{t-1} + \text{Plant, Property \& Equipment}_{t-1} + \text{Securities}_{t-1}) / \text{Total Assets}_{t-1})]$ . This is the ratio of non-current assets other than plant, property, and equipment to total assets. It is the ratio of asset quality in the current year (t) to asset quality in the previous year (t-1).

SGI (Sales Growth Index) =  $\text{Sales}_t / \text{Sales}_{t-1}$ . This refers to the ratio of sales in year t to sales in year t-1. Sales growth is not itself a measure of manipulation. However, growth firms are likely to find themselves under pressure to manipulate in order to keep up appearances.

DEPI (Depreciation Index) =  $(\text{Depreciation}_{t-1} / (\text{Plant, Property \& Equipment}_{t-1} + \text{Depreciation}_{t-1})) / (\text{Depreciation}_t / (\text{Plant, Property \& Equipment}_t + \text{Depreciation}_t))$ . This is a measure of the ratio of the rate of depreciation in the previous year (t-1) to the corresponding rate in the current year (t). DEPI that is more than 1 suggests that assets are being depreciated at a slower rate. This indicates that the company might be changing useful asset life assumptions upwards or implementing a new method that is income friendly.

SGAI (Sales, General and Administrative Expenses Index) =  $(\text{Selling General \& Administrative Expense}_t / \text{Sales}_t) / (\text{Selling General \& Administrative Expense}_{t-1} / \text{Sales}_{t-1})$ . This is a measure of ratio of SGA expenses in the current year (t) relative to the previous year (t-1).

LVGI (Leverage Index) =  $[(\text{Current Liabilities}_t + \text{Total Long-Term Debt}_t) / \text{Total Assets}_t] / [(\text{Current Liabilities}_{t-1} + \text{Total Long-Term Debt}_{t-1}) / \text{Total Assets}_{t-1}]$ . This refers to the ratio of total debt to total assets in the current year (t) relative to the previous year (t-1). An LVGI that is more than 1 is an indication of a rise in leverage.

TATA (Total Accruals to Total Assets) =  $(\text{Income from Continuing Operations}_t - \text{Cash Flows from Operations}_t) / \text{Total Assets}_t$ .

t is the current year; and

t-1 is the previous year.

### **3.1.2 Control Variable: Company Size - Market Capitalisation**

According to Almunani (2018), market capitalisation refers to the number of shares outstanding multiplied by the market price of the share per unit. The common benchmark to measure the value of a company is by their market capitalisation. The market capitalisation can be represented by the aggregate value of the company or stock. Market capitalisation also is the value of a company that traded on the stock market therefore market capitalisation influences the investment decisions among investors (Widiatmoko et al., 2020). Al-Afeef (2020) stated that market capitalisation is important for managers since manager are often raise market value of the share price as it is a strategic goal to increase the wealth of owners and to increase the company size.

Earlier study on the level of earning management with company size as a control variable measured by natural log market capitalisation has found negative relationship (Busirin et al., 2016; Nouri & Abaoub, 2014; Sirat, 2012). This is consistent with Lobo et al. (2001) where they argue that market capitalisation does not influence the level of earning management in their study. This is due to big size companies generally has proper internal control that efficiently oversee the operation of the companies. This then will lead the companies to provide more reliable information as they are monitored by financial market and analysts. Therefore, reduces information asymmetry problems and subsequently reduces the tendency of engagement in earning manipulations.

Kheng Soon (2012) argued that the engagement of earning manipulation is related to increase in market capitalisation. This is because companies that tend to engage in real activities manipulation are likely to have higher market performances compared to companies that do not engage in such activities (Andreas, 2017). This is consistent with study done by Wijesinghe et al. (2021), where they used 20 companies with the highest market capitalisation to determine the level of earning manipulations. The study found that out of 20 companies, 19 companies were found to engage in earning manipulations in the average Beneish M-Score value for the period of 2013 to 2017. Therefore, this study will use natural log market capitalisation as the control variable to examine the association of earning manipulation and share price in the PLCs in Malaysia.

### **3.1.3 Dependent Variable: Share Price**

According to the Organisation for Economic Co-operation and Development (OECD, 2021), share price can be defined as indices that are computed from the prices of common shares of companies that are listed in the stock exchanges domestically or internationally. Share price determined using the closing daily values for the monthly data by the stock exchange. The share price index determines in what way the value of the stocks in the index is moving and the share return index will then inform the investor how much return they would make as a compensation for investing in those shares.

On the other hand, a study done by Sukesti et al. (2021) stated that stock price is the current price of the share that is listed or traded in the stock exchange. Stock price is determined by the market participants and influenced by the demand and supply of related shares in the capital market. The stock price of the company can reflect the proportional value of the company that represents the market capitalisation owned by the company. The company stock price also reflects the investor perception of the company's ability to grow. Therefore, higher stock prices influence investors to invest.

In conjunction with this study, the share price was measured using the year-end share price. This is consistent with the study done by Al-Malkawi et al. (2018), where the market price of share was defined by year-end share price utilised in the empirical model of their respective study. Referring to the association of earning manipulation and share price, a study done by Adu-Gyamfi (2020) also utilised year-end share price in the measurement of the share price. Therefore, this study applied year-end share price in order to measure the association of earning manipulation and share price.

## **4. DATA ANALYSES AND RESULTS DISCUSSION**

In this study, following analyses have been done to answer the research objectives. Respondent's descriptive analysis to depict some of the important question's responses also to know the level of engagement of students in the online learning environment, KMO and Bartlett's test,

communalities, total variance explained and regression analysis have been conducted by SPSS version 26.

#### 4.1 Data Analyses

##### 4.1.1 Normality Test

Normality test was conducted to determine the appropriateness of the use of test of significant correlation and regression. The appropriateness of the use of statistical tools in this study is influence by the normality and non-normality observation values. The normality test was conducted using Skewness and Kurtosis observation values on earning manipulations, market capitalisation and share price. The summary statistics are presented in Table 1.

**Table 1** Summary Statistics of Skewness and Kurtosis – Test of Normality

Variables	N Statistic	Skewness		Kurtosis	
		Statistic	Std. Error	Statistic	Std. Error
Earning Manipulation	65	1.356	.297	1.843	.586
Market Capitalisation	65	.315	.297	-.773	.586
Share Price	65	.819	.297	.573	.586

George and Mallery (2010) stated that the determination of normality test can be verified using the observation value of the Skewness and Kurtosis. The justification of normal distribution of data can be achieved when the Skewness and Kurtosis value is within the range of -2 to 2. According to the table, the Skewness and Kurtosis values for all the variables are within the acceptable range of -2 to 2. This shows that data of the earning manipulation, market capitalisation and share price are normally distributed. Based on the normal distribution of the data, the study used parametric statistical tools to determine the relationship between earning manipulation and share price with market capitalisation as the control variable.

##### 4.1.2 Correlation Analysis

Correlation analysis was conducted to examine the association, if any, between the earning manipulation and share price with market capitalisation as the control variable. Since the normality test found normal distribution of data based on the Skewness and Kurtosis value, this study used Pearson correlation to determine any relationship between the variables. The summary statistics of the correlation analysis are presented in the Table 2 as follows:

**Table 2** Summary Statistics – Pearson Correlation Coefficient Matrix

Variables		Share Price	Earning Manipulation	Market Capitalisation
<b>Share Price</b>	Pearson correlation Sig. (2-tailed)	1		
<b>Earning Manipulation</b>	Pearson correlation Sig. (2-tailed)	-.120 .170	1	
<b>Market Capitalisation</b>	Pearson correlation Sig. (2-tailed)	.505** .000	-.380** .001	1

\* Correlation is significant at the 0.05 level (2-tailed)

\*\* Correlation is significant at the 0.01 level (2-tailed)

Based on Table 2, earning manipulation and share price are negatively low correlated but statistically insignificant with Pearson correlation coefficient of -0.120 and p value of 0.170. This result is supported by a study done by Adu-Gyamfi (2020), where the study found low negative



relation between the two variables but there is no statistically significant correlation between earnings manipulation and share price.

On the other hand, the market capitalisation and share price are positively correlated and statistically significant with Pearson correlation of 0.505 and p value less than 0.001. From the result, an increase in share price is associated with an increase in market capitalisation and vice versa. Sudibyo and Basuki (2017) also found that higher share price affected the market capitalisation. This is because the company stock price will multiply the number of shares outstanding for the same period in order to determine their respective market capital value (Ajina & Habib, 2017).

Nevertheless, earning manipulation and market capitalisation are negatively low correlated and statically significant with Pearson correlation coefficient of -0.380 and p value of 0.001. This means that an increase in market capitalisation is correlated with a decrease in earning manipulation scores. Likewise, decrease in market capitalisation is correlated with increase in earning manipulation scores in a low level of correlation. This result is consistent with earlier study done by Busirin et al. (2016); Nouri and Abaoub (2014) and Sirat (2012) where they found the correlation of earning manipulation and market capitalisation to be negative and significant.

#### 4.1.3 Multicollinearity Test

Multicollinearity test was conducted to determine the variables are appropriate to predict independent variables and to certify that the variables are not biased. The test also conducted to justify that the regression is good when the Tolerance value are above 0.10 and the Variance Inflation Factor (VIF) are below 10. Based on Table 3, the Tolerance and VIF value are within the acceptable range. Therefore, the regression analysis can be conducted.

**Table 3** Multicollinearity Test and Variance Inflation Factor

Variables	Tolerance	VIF
Earning Manipulation	.856	1.169
Market Capitalisation	.856	1.169

#### 4.1.4 Regression Analysis

The regression equation was estimated with earning manipulation as the dependent variables in the study and share price as independent variables with market capitalisation as control variable. The summary statistic of the regression analysis is presented as the Table 4 as follows:

**Table 4** Regression analysis between earning manipulation using Beneish M-Score and share price

Variables	Coefficient	t-value	p-value
Earning Manipulation	0.083	0.707	0.482
Market Capitalisation	0.536	4.543	0.000**
F	10.927		0.000*
R <sup>2</sup>	0.261		

Dependent Variable: Share Price

\* Significant at 0.05

\*\* Significant at 0.01

The regression equation is statistically significant at level of significance of 0.05 for, (p < 0.05) on the market capitalisation and share price. However, the association between earning manipulation (calculated using Beneish M-Score) and share price is statistically insignificant with p-value of 0.482. This result consistent with Adu-Gyamfi (2020) where the study also found

statistically insignificant result. Nevertheless, the R-square value indicated that the independent variables account of 26.1% of the variation in the dependent variables which is the share price.

From Table 4, only the individual regression coefficient for market capitalisation is statistically significant at level of 0.01 ( $p < 0.01$ ), while earning manipulation is statistically insignificant towards share price with p-value of 0.482. On the other hand, the coefficient of market capitalisation and 0.536 respectively. This means that an increase in market capitalisation is associated with an increase in share price. This result supported by Al-Afeef (2020) where manager is often influenced to raise the share price as a strategic goal to increase the wealth of their owners and to increase the company size.

## 4.2 Results Discussion

The Beneish M-Score Model was utilised to predict the possibility of detecting earning manipulation. The indication of earning manipulation was determined by a criterion scale where the Beneish M-Score of lower than -2.22 signified no earning manipulation, while the Beneish M-Score of higher than -2.22 signified earning manipulation. Regression analysis was conducted to investigate the association between earning manipulation and share price where the percentage of earnings manipulation and average share price between 2017 and 2020 were used for each variable in this study. The result of the regression analysis on the entire sample indicated a coefficient of 0.536 and p-value less than 0.001 ( $p < .001$ ) which signified that there has been a positive relationship between market capitalisation and share price. While coefficient of 0.083 and p-value 0.482 shows statistically insignificant relationship between earning manipulation and share price, since the p-value generated was higher than the expected level of significance of 0.05. Therefore, the hypothesis which states that there is a significant relationship between Beneish M-Score of PLCs in Malaysia and their share price was rejected. The finding contradicts the argument of a negative relationship between earning manipulation and share price where companies engaged in earning manipulation generally experience reduced share price (Beneish, 1999; Christianto & Budiharta, 2014; Nuryaman, 2013). Additionally, the results disagree with (Christianto & Budiharta, 2014; Nuryaman, 2013; Zhu & Lu, 2013) where the two variables were statistically significant with the manipulative companies.

## 5. CONCLUSION AND RECOMMENDATIONS

The regression analysis was performed to determine the relationship between earning manipulation and share price among the PLCs. The results suggested a statistically insignificant between the two variables according to the coefficient of 0.083 and p-value 0.482. This means that the earning manipulation is not associated with share price. Therefore, this finding suggests that other factors apart from share price is influencing earning management activities such as the company's financial leverage, stock issuance and auditor size (Ngoc Hung et al., 2018).

Based on the findings, the theoretical implication of this study suggests that PLCs in Malaysia is not likely to be engage in earning management activities due to conflict of interest that exists in agency theory. Both the principle and the agent are not anticipated to be able to manipulate their financial performance in their financial statement since PLCs are highly regulated under established corporate governance and also closely monitored by the Bursa Malaysia.

The practical implication of the study is that it enhances the existing literature review, empirical evidence, and complement prior studies on share price and earning manipulation using the Beneish M-Score Model in Malaysian context. Although this study found insignificant association between share price and earning management, the findings aid regulators or policymakers to be continuously stringent in managing the PLCs. The study also provides the quantitative evidence

which can be a ground reference for the practitioner or organisation so that the PLCs in Malaysia will not likely to be engaged in earning management.

Regarding the study limitations, future research should use a bigger sample to increase the study representative. The methods can also be used in future research on PLCs with small market capitalisation within the Malaysia Stock Exchange to assess the likelihood of earning manipulation detection. Future research also should utilise more proven or established earning management detection method to detect earning manipulation.

Future research should be conducted in examining the association of earning manipulation and share price in the Malaysian context, as the finding of this study found that there is a weak negative association as well as the relationship is statistically insignificant. The usefulness of Beneish M-Score Model is very apparent in this research. Future researchers can analyse the likelihood of earning manipulation by listed companies in the FTSE Bursa Malaysia Top 100 Index. A comparative analysis using Beneish M-Score Model and the other factor influencing earning management is also left to be explored in future research as an extension to this study. Future research also should utilise more proven or established earning management detection method to detect earning manipulation.

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