DETECTION OF EARNINGS MANIPULATION; EVIDENCES FROM SRI LANKA

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ABSTRACT

Stream of literature on earnings management highlighted managers' opportunistic behavior to manipulate financial information with the view of extracting numerous unethical benefits. The purpose of this study is to investigate whether earnings manipulation exists in Sri Lanka as fabricating earnings which adversely triggers to the economy as a whole. We utilized Beneish model in our study as this model is a widely accepted, successful and important fraud sensitive indicator in detecting earnings manipulation under specific accruals method. As the sample, we considered twenty listed firms from Colombo Stock Exchange (CSE) for the period of 2013 to 2017 on quarterly basis. Days Receivable Index (DSRI), Gross Margin Index (GMI), Asset Quality Index (AQI), Sales Growth Index (SGI), Depreciation Index (DEPI), Sales General and Admin Expense Index (SGAI), Leverage Index (LVGI) and Total Accruals to Total Asset Index (TATA) were used to calculate the M-Score of the model which determines the susceptible companies where earnings manipulation could exist. Results, reveals that earnings manipulation exists in the entities listed on CSE at different degrees based on financial structure of such companies operating in different sectors. Our findings facilitate regulatory authorities to enhance effectiveness of standard-setting and monitoring to eliminate dodges where earnings could be manipulated. In addition, the study contributes to the knowledge base of academics and policymakers to make effective economic decisions.

Keywords: Beneish Model, Earnings Management, Fraud Detection, M-Score, Sri Lanka

1. Introduction

Financial information plays a vital role in the current context of the business world as it severely affects the decision-making process of the stakeholders (Mushinada, 2019). Among the number of various stakeholders who uses financial information, investors play a major role as they use the financial information provided by accounting as a key factor when making their investment decisions due to the stewardship of accounting (Amr et al., ; IASB, 2018). Apart from the above role, financial reporting helps best performing companies to distinguish themselves from the poor performing companies, hence that investors could be able to make efficient resource allocation within the economy (Healy & Wahlen, 1999). Not only that, Nakashima (2019) emphasis the important of earnings information for the managers.

Rahman and Ali (2006), states that external parties of the organization tend to rely more on information provided by the financial statements, where this heavy reliance they placed on the accounting figures create a strong incentive and a fertile ground for the managers of the companies to manipulate earnings of the companies. Several factors like personal benefits, job security, and intention of receiving compensation schemes, contracts written in terms of accounting numbers and capital market expectations and valuations induce the managers to engage in manipulating the earnings of the firm (Noronha et al., 2008 & Healy & Wahlen, 1999). Therefore, detection of earnings manipulation is a very important factor where this provides signals to the standard setters to assess the pervasiveness of earnings management and overall integrity of financial reporting.

There are inconclusive evidences relating to the earnings management since studies concluded with contradictory findings (Ahmed at el., 2018; Zakaria at el., 2015). In Sri Lankan context the aspect of earning management investigated with limited studies. For examples, Rajeevan and Ajward (2019) investigated board characteristics and earnings management in Sri Lanka whereas Wijesinghe and Kehelwalatenna (2017) examined the impact of earnings quality on the stock returns. Henceforth, it seems that investigation of earnings management is confined to a few area of studies that stems the necessary of applying the more techniques to examine the presence of earnings management in Sri Lanka.

With backdrop current study examine whether the listed entities of CSE engage in earnings management using Beneish model (1999). The Beneish Model which was developed by Messod Daniel Beneish in 1999 was utilized for this study as it is emphasized the importance of the Beneish model as one of the successful fraud sensitive indicators in detecting earnings manipulation (Spyridon, 2016; Nwoye, Okoye & Oraka, 2013; Burcu & Güray, 2011; Beneish & Nichols ,2009; Prevoo, 2007 Curtis & Thalassinos, 2005). Additionally, we conducted four discussions with external auditors to further understand the earnings manipulations of the sample companies.

The remaining part of the study is outlined as follows. Next section of this paper provides the literature review, and section three provides details on methodology. Section four represents the results and discussion and final section comprised with conclusion, limitations and suggestions for future research.

2. Literature Review

Although earnings management is considered to be somewhat newer concept in the Sri Lankan context as there are abundance of foreign researches that could be seen for the past three decades (Neerav and Kaustav, 2016; Spyridon, 2016; Nwoye, Okoye & Oraka, 2013; Burcu and Güray, 2011; Beneish and Nichols,2009; Bellas and Tzovas, 2008; Prevoo, 2007; Curtis and Thalassinos, 2005; Spathis, 2002; Holthausen, Larcker & Sloan,1995). Earnings management occurs when managers use judgment in the financial reporting and in structuring transactions to alter financial reports to either mislead

some stakeholders about the underlying economic performance of the company, or to influence contractual outcomes that depend on reported accounting numbers (Healy & Wahlen, 1999). Deloitte (2008) found that managers of financially distressed companies execute such fraudulent practices in order to suppress adverse financial performance with intention of receiving more liquidity facilities from the banks and other financial institutions as well as in order to gain the personal benefits. Gaver, Gaver & Austin (1995), Holthausen et al (1995), Shuto (2007) found in their studies that compensation is an encouragement which induces managers to manipulate earnings where such manipulations would upsurge their compensation or bonus plans.

Another main incentive for managers for the creative accounting is to meet the expectations of analysts' forecasts. The particular activities of earnings management are done in order to consistent the reported earnings with the analyst forecasted earnings. To accomplish this, managers tend to upbeat the reported earnings (Burgstahler & Eames,1998). Apart from the internal factors which affects the earnings management, several other external factors drive managers to engage in creative accounting. Changes in legislation as well as modifications in corporate tax rates could persuade managers to engage in earnings management (Bellas &Tzovas, 2008; Goncharov & Zimmermann, 2006).

When considering how the earnings are managed, prior literature provides sufficient evidences on that the earnings are manipulated based on two main widely used concepts. They are accrual basis and the real activities manipulation (Schipper, 1989). There are numerous ways under these two main areas to make creative accounts by managers. Real activities manipulation may reduce the firm value due to the arrangements made in the current period with the intention of increasing earnings. Results may give a negative impact on cash flows in future periods. For example, the aggressive price discounts which offered in order to increase sales volumes and meet some short term earnings targets could lead to the creating of expectations that such discounts will be offered in future periods also (Cohen & Zarowin, 2010; Zang, 2012; Lin, Radhakrishnan & Su, 2006; Roychowdhury, 2006).

As the measures adopted to alter the financial statements under the accrual basis, use of income increasing accruals which provides opportunistic estimates and judgments like reporting fabricated sales, reducing the level of bad debts, capitalizing of several expenses, avoiding research and development expenses, write-offs could be identified. In order to identify accruals in a broader manner, Richardson, Sloan, Soliman, and Tuna (2005) emphasize that if there are no accrual based accounting, the only asset or liability which appear on the balance sheet will be the cash account hence it substantiate that all the other assets and liabilities in the balance sheet arises due to the accrual based accounting. Thus accruals provide the accounting income the ability to act as a measure of performance (Achleitner, Guenter, Kaserer & Siciliano, 2014; Durak, 2010). Total accruals could be split into main two categories named discretionary accruals and non-discretionary accruals. Discretionary

accruals or abnormal accruals are related to the adjustments to the cash flows where non-discretionary accruals or normal accruals are related to the accounting adjustments which are done in the sense of affecting the cash flows which are stated by the accounting standard setters. As stated by Alexander, Britton & Jorissen (2011) due to the subjectivity nature inherent to the accruals it could not be completely identifiable or observable hence managers could take the advantage of this in order to achieve the desired results or goals.

Through engaging in a review of precise prior literature, sufficient knowledge regarding the earnings management concept could be obtained. As stated earlier there are plenty of researches done by different scholars regarding the manipulation of company's earnings in several aspects for the past three decades and only few researches were done in Sri Lankan context (Rajeevan & Ajward 2019; Wijesinghe & Kehelwalatenna, 2017; Wijesinghe & Kavinda, 2017). As well as among the handful of few researches done, most of them are based on corporate governance aspects checking whether the impact of firm characteristics and Board characteristics on earnings management or testing the impact to the earnings management using few proxies like leverage, return on assets (ROA) etc. Therefore, identifying the above research gap we examined whether the companies listed under CSE engage in manipulation. For this purpose, we selected Beneish (1999) model as prior literature emphasized the importance of the model as a successful fraud sensitive indicator under the specific accrual method.

3. Research Methodology

3.1 Population and sample selection

The CSE has 296 companies representing 20 business sectors as at 04th May 2017. We considered top 20 companies listed in the CSE with the highest market capitalization as the sample of the study. Market Capitalization is a critical factor that indicates the liquidity and the size of a company. Also, the sample represents nearly 40% of the total market capitalization. The banking and finance sector was excluded since regulations, structure and accounting practices for these companies differ substantially from the companies in the other sectors. Data reflects the quarterly data for five (05) years from the year 2013 to year 2017 and data of one additional quarter was required due to the fact that some variables consider the change in proportions and lag values. Therefore, last quarter data of 2012 were also considered.

3.2 Beneish (1999) model

Under the specific accrual basis, we employ Beneish (1999) model and calculated M Score as it is one of the significant models used to detect earnings management (for example, Spyridon, 2016; Nwoye, Okoye & Oraka, 2013). This model was developed by Messod D. Beneish in 1999 and uses eight descriptive variables that cover financial figures related to total assets, gross sales, marketing, and general management expenses, depreciation expenses and commercial claims/ debts which are respective to the activities in a particular entity.

It is argued that the M-score is a reliable instrument for fraud detection when the tool was built to support the auditors in accounting. During the tool processing development to detect earnings management, the Beneish M-score model was implemented on different firms globally so as to detect the presence of income manipulation (Burcu & Güray, 2011). A comprehensive study has led to a convincing conclusion that M-score model in finding the possibility of accounting fraud is reliable. It has been proved that the M-score Model is a popular and powerful model effective as tool in detecting manipulation. The Beneish model is also known for its popularity, simplicity and reliability in the earnings management field.

This study attempts to detect whether earnings manipulation exists in the companies listed in the CSE under specific accruals method. Beneish (1999) model is being identified by many scholars as a successful and reliable fraud sensitive indicator and the areas covered under eight-factor variables of the model are considered as significant fertile areas of the financial statements where earnings could be manipulated (Spyridon, 2016; Nwoye et al, 2013; Burcu & Güray, 2011; Beneish & Nichols, 2009; Prevoo, 2007; Curtis & Thalassinos, 2005).

Accordingly, we calculated the M-Score value for the sample companies and ranked score in descending order. Thereby we identified the companies that considered as from the highest susceptible company to the lowest susceptible company. Further, all companies were ranked from highest to lowest under the eight individual variables in order to check whether how each company in the sample position in each index.

The particular indexes which are under this model are Days Sales in Receivables Index (DSRI), Gross Margin Index (GMI), Asset Quality Index (AQI), Sales Growth Index (SGI), Depreciation Index (DEPI), Sales General & Administrative Expense Index (SGAI) and Leverage Index (LVGI) and Total Accruals to Total Asset Index (TATA). Probability of manipulation goes higher with an unusual increase in receivables, unusual sales growth, deterioration of gross margins, lower asset quality, increasing accruals, lower depreciation rates to boost earnings, etc. The following equations demonstrate the calculation of the above indexes.

3.2.1 Eight Factor Variables of M- Score

1) $$DSRI = \frac{Receivables_{\ t}/Sales_t}{Recievables_{\ t-1}/Sales_{t-1}} \ldots\ldots\ldots\ldots\ldots 01$$

2) $$GMI = \frac{Sales_{t-1}-COGS_{t-1}}{Sales_{t-1}} \Big/ \frac{Sales_t-COGS_t}{Sales_t} \ldots\ldots 02$$

3) $$GMI = 1-\frac{CA_{\ t}+PPE_t}{TA_t} \Big/ \frac{CA_{t-1}+PPE_{t-1}}{TA_{t-1}} \ldots\ldots\ldots 03$$

4) $$SGI = \frac{Sales_t}{Sales_{t-1}} \ldots\ldots\ldots\ldots\ldots\ldots 04$$

5) $$DEPI = \frac{DEP_{t-1}}{DEP_{t-1}+PPE_{t-1}} \Big/ \frac{DEP_t}{DEP_t+PPE_t} \ldots\ldots\ldots 05$$

6) $SGAI =$

$$\frac{SGA\ Expense_{\ t}}{Sales_t} / \frac{SGA\ Expense_{\ t-1}}{Sales_{t-1}} \ldots\ldots\ldots 06$$

7) $LVGI =$

$$\frac{LTD_t + CL_t}{TA_t} / \frac{LTD_{t-1} + CL_{t-1}}{TA_{t-1}} \ldots\ldots\ldots\ldots\ldots 07$$

8) $TATA =$

$$\frac{Income\ from\ CO_t - CF\ from\ Operations_{\ t}}{TA_{t-1}} .08$$

Where,

COGS- *Cost of Goods Sold*

CA - Current Assets
TA - Total Assets
PPE - Property, Plant and Equipment
DEP - Depreciation
SGA - Sales, General and Admin Expense
CL - Current Liabilities
LTD - Long Term Debt
CF - Cash flow
CO - Continuing Operations

Based on the eight factor variables of the Beneish model (1999), M-Score of the model is given as (Equation 01);

M Score = - 4.840 + 0.920 (DSRI) + 0.528 (GMI) + 0.404 (AQI) + 0.892 (SGI) + 0.115 (DEPI) - 0.172 (SGAI) – 0.327 (LVGI) + 4.697 (TATA) ..... (01)

The decision rule in Beneish Model (1999) is that, if M Score > -2.22 (a positive value or less negative value than this) then there is a strong likelihood of manipulation of earnings. And if M Score < -2.22 (a higher negative value than this) then it indicates the absence of earnings manipulation. The decision rules under each component of M score is summarized below in Table 1.

Table 1. Decision rules under each component of M - score

Index	Decision criteria
DSRI	If DSRI > 1 = Company is susceptible to the inflation of revenue through the overstatement of accounts receivables as a percentage of sales.
GMI	If GMI > 1 = Company is susceptible for manipulating their earnings due to the deterioration of the gross margin in the current financial period compared to the previous financial period.
AQI	If AQI > 1 = Company is susceptible to manipulate their earnings through capitalizing and deferring costs that should have been expensed.
SGI	If SGI > 1 = There is a possibility of manipulating earnings to keep up their good appearance without depicting the impression of decelerating sales growth experienced in particular financial periods.
DEPI	If DEPI > 1 = There is a possibility of manipulating earnings by adopting a lower depreciation rate to increase the income.
SGAI	If SAGI < 1 = There is a possibility of manipulating earnings by particular companies through deferring costs.
LVGI	If LVGI > 1 = the variables are included to capture the debt covenants incentives for the manipulation of earnings.
TATA	If TATA > 1 = There is a possibility of manipulating earnings as there is a higher degree of accruals underlying the financial statements than the operational cash flows to the total assets.

When drawing conclusive decisions based on the periods with M Score signifying no manipulation tendency, we should pay their absolute care as there is a possibility for companies to commit type 1 error (possibility of viewing a manipulator company as a non-manipulator) or type 2 error (possibility of viewing a non-manipulator company as a manipulator). Nwoye et al., (2013) argues that as cited in Beneish (1999) that more type 1 error is usually committed by users of this model than the type 2 error. Hence, users of this model further should examine the indicators of 8 factored variables against their above individual decision rule, even on non-manipulation before drawing the final report on the state of the company's financial reports. Considering all facts, Beneish (1999) Model got the ability to draw the attention of possible fertile grounds in the financial reports where earnings could be fabricated by the managers to meet their earnings expectations.Apart from the applying the Beneish Model we conducted four discussions with auditors who are engaged in the external auditing of some companies in the sample. These respondents are at the manager level positions where they have the main responsibility of carrying out the audit process. The main purpose of having the discussion is to obtain any other qualitative factors that may important in detecting earnings manipulations.

4. Results and Discussion

4.1 Analysis of Eight Factor Variables of M-Score

We calculated the M Score for the sample based on eight factor variables and the results are given under each variable index.

4.1.1 Days Sales Receivable Index – DSRI

Almost all the companies in the sample are showing an index value greater than 1 in most of their financial periods. Companies with higher positive values greater than 1 indicate that there is a possibility of revenue inflation in such companies at significant levels considered to the relevant financial periods. Company R, company S and company T are having an Average DSRI value for the whole period less than 1. But it never implies that these companies are not having any possibility to manipulate the earnings as the above companies are having DSRI greater than 1 in some of their financial periods. Therefore, considering the results of the DSRI we can conclude that there is a possibility to manipulate earnings through revenue inflation by the companies listed in the CSE. The results of the DSRI are attached with Appendix 01.

4.1.2 Gross Margin Index – GMI

In the sample majority of the companies in the sample are facing the gross margin deteriorations in some of their financial periods compared to the prior financial period. In another word, they are experiencing weaker profitability or else gross margin reductions in the current financial period relative to the previous financial period. In such situations, Beneish (1999) model assumes that companies with GMI greater than 1 are most probable companies for earnings manipulation.

Companies with higher positive values greater than 1 means such companies are undergoing a reduction of the current gross

margin compared to their previous financial period. Therefore, it denotes that such companies are experiencing weaker profitability in the current financial periods. According to the Average GMI values attached in Appendix 2, in company F, there are some negative Gross Margin Index Values during some of their financial periods. This is due to not only their gross margin is reduced compared to the prior financial periods, but also the gross margins in such considered periods have reduced up to negative figures. This is due to the gross loss that they have obtained in such periods

During the 2015 Quarter 4, the Gross margin of company F has decreased compared to its previous quarter creating a loss. Therefore, GMI value in 2015 Quarter 4 has taken a negative figure greater than 1. But in 2016 Quarter 1, the gross margin of company F has taken a positive figure creating a profit. Due to that reason GMI value for the considered period 2016 Quarter 1, has taken a value less than 1. Same as in 2017 Quarter 4, the company has experienced lower revenue compared to the prior quarter with a higher cost of sales exceeding the current revenue as well as prior cost period cost of sales. Therefore, due to that reason, the GMI value of company F has obtained a significant figure greater than 1 with a negative effect due to the deterioration of gross margin to a loss. Therefore, in such kind of situations, there could be the possibility of manipulating earnings by such companies to show that the company is having a healthy gross margin in subsequent periods. However, due to the significant negative GMI value given in 2017 Quarter 4 of company F will affect the ultimate M Score to be exceeding the decision rule of -2.2 in a significant manner by pushing the company to the non-manipulating region which will be discussed in detail later. However, it does not imply that there is no tendency for the company to manipulate their earnings as for the other quarters the company's M Score is within the manipulation region whereas this is backed up by the Gross Margin Index and other indexes also in such prior periods. (Please refer the Appendix 02).

4.1.3 Asset Quality Index- AQI

Annual average AQI values indicate that almost all the companies are making signals on the possibility to manipulate earnings through the capitalizing and deferring costs in some of their financial periods. Accordingly, company Q, company P, company C, company D, and company F are among the top five probable manipulators of earnings through asset quality due to the significant AQI values that such companies have obtained. Also, though the average AQI value for the whole period for company J, company S, company L, and company A is having a value less than 1, it never implies that such companies are not manipulating earnings through capitalizing and deferring costs as some of their quarterly and average annual AQI figures are greater than 1. The outcome these are attached with Appendix 03.

4.1.4 Sales Growth Index – SGI

It is revealed that sales growth in the current financial period compared to the prior financial period. Though average SGI value for the whole period was taken for the convenience of ranking, model users

should look into the quarterly or annual financial figures with proper care in order to detect the periods with unusual sales growth subsequent to the periods with decelerating sales growth (see the results in Appendix 04). According to the sample data set, in some companies, there were periods with high sales growth immediately after the lower sales growth. Therefore, Beneish proposes in his model that though sales growth does not imply any manipulation, companies with periods of high sales growth subsequent to the lower sales growth are susceptible to possible earnings manipulators.

4.1.5 Depreciation Index – DEPI

According to the Appendix 05, results indicate that most of the companies in the sample with a DEPI value greater than 1, signaling that there could be a possibility for the existence of earnings manipulation by such companies listed in the CSE.

4.1.6 Sales General and Administrative Expense Index – SGAI

Only a few companies are resulting in an average SGAI value smaller than 1. Hence company G, company S and company Q are indicating an average smaller than 1 for the past period (See the Appendix 06). They have obtained such an average due to the significance of the index values less than 1 for the considered period, though in some periods the index value is greater than 1. Also the companies with annual averages of SGAI greater than 1, never implies that they do not manipulate the earnings of the companies in such a manner as the quarterly financials obtained were consisted with the SGAI index values which would back up the periods of possible earnings manipulations in aforesaid companies listed on the Colombo Stock Exchange.

4.1.7 Leverage Index – LVGI

Majority of the companies are having greater leverage during their current financial periods compared to the prior financial periods indicating higher leverage. Therefore, during the periods where the companies in the sample are having an LVGI value greater than 1, there would be a probability of manipulating their earnings through increasing leverage. The results of LVGI are attached with Appendix 07.

4.1.8 Total Accruals to Total Asset Index- TATA

As per the Appendix 08 we can identify that the majority companies with an index value greater than 1 could be identified. Also in Beneish M -Score model, the model itself assigns a higher weight age to the accrual manipulation. Therefore, companies with greater significant M- score values indicated the possible earnings manipulators through accruals.

4.2 Beneish Model – M Score

Through the incorporation of the above eight-factor variables to one specific model, the next attempt is to check whether such companies fall to the manipulation region or the non-manipulation region. According to the Decision Rule, if the M-Score is a value greater than -2.2, (a positive figure or a less negative figure) the companies fall under the manipulation region. If the M-Score is a value less than -2.2, (higher negative figure) the companies

fall under the non-manipulation region. According to the results, almost all the companies are falling to the manipulation region with different degrees of M- Scores. There are some financial periods where specific companies fall to the non-manipulation region. This is mainly due to the significance of the index values which were obtained by such companies in such financial periods. Table 02 below depicts the mean M-Scores obtained by the sample companies for the considered period and ranked them from Highest M-Score to the Lowest M-Score.

Table 2. Annual Average M-Value

Company		Avg. M-Value	Year				
			2013	2014	2015	2016	2017
Company B	☹	**-1.4330**	**-0.6350**	-1.6551	-1.5668	-1.5388	-1.7690
Company C	☹	**-1.5982**	**-1.5838**	-2.0314	-1.7313	-1.3567	-1.2880
Company D	☹	**-1.6464**	**-1.6311**	-1.7722	-1.4814	-1.8611	-1.4864
Company M	☹	**-1.6613**	**-1.5390**	-1.3119	-1.7617	-1.8749	-1.8187
Company P	☹	**-1.7115**	**-1.6571**	-1.7646	-1.7414	-1.7415	-1.6528
Company O	☹	**-1.8504**	**-2.0713**	-1.8754	-1.6363	-1.7736	-1.8953
Company A	☹	**-1.9205**	**-2.0400**	-2.1360	-2.3690	-1.0068	-2.0506
Company E	☹	**-1.9348**	**-1.8525**	-1.9048	-2.0492	-2.0250	-1.8428
Company N	☹	**-1.9425**	**-1.8777**	-2.1271	-1.9730	-1.8990	-1.8354
Company Q	☹	**-1.9683**	**-2.0455**	-1.8473	-2.0766	-1.9469	-1.9250
Company L	☹	**-1.9924**	**-1.9814**	-1.7726	-2.0487	-1.9016	-2.2578
Company S	☹	**-2.0167**	**-1.9338**	-2.0329	-2.1379	-2.0961	-1.8828
Company G	☹	**-2.0191**	**-2.3879**	-1.7192	-2.1211	-2.1694	-1.6976
Company H	☹	**-2.0676**	**-2.2044**	-2.1514	-1.9349	-2.0710	-1.9760
Company K	☹	**-2.0725**	**-2.0102**	-2.1066	-1.9704	-2.1654	-2.1099
Company J	☹	**-2.1050**	**-2.0956**	-2.1108	-2.0671	-2.0971	-2.1542
Company T	☹	**-2.1114**	**-1.8557**	-2.1067	-2.2415	-2.2592	-2.0940
Company I	☹	**-2.1345**	**-2.1181**	-2.2187	-2.0531	-2.0995	-2.1830
Company R	☹	**-2.1351**	**-2.0791**	-2.1682	-2.1778	-2.1890	-2.0612
Company F	☺	**-3.2636**	**-2.2578**	-2.1446	-2.7492	-2.2935	-6.8729

☹	Susceptible earnings manipulator
☺	Possible earnings non-manipulator

When analyzing the individual companies which resulted the higher M- Score values we can identify that the Company B and C recorded the highest M- Score. In Company B there is a strong likely hood of manipulating earnings throughout the whole period except the last two quarters in 2017 as M- Score does not fall under the manipulation region in the last two quarters of 2017. When considering the overall index values and the M- Scores obtained by the company B, DSRI, GMI, SGI indicators play a more sensitive role by giving a considerable impact to the M- Score. Please refer to Appendix 09 for details of Company B.

In company C, there is a strong likelihood of manipulating earnings throughout the considered financial periods. DSRI, DEPI, AQI and GMI indicators play a major role by giving a substantial impact to the M- Score to be fall under the manipulation region of the company C. A high tendency for the company to adopt a lower rate of depreciation to boost earnings upwards which is backed up by the DEPI index in most of the quarters. The results of Company C are attached Appendix 10. Apart from the quantitative research which was carried out using the Beneish (1999) model in detecting whether earnings manipulation exists in the Colombo Stock Exchange, four discussions were carried out with some of the auditors who are engaged in the external auditing of some companies in the sample. Based on the outcome of these discussion we can make the following findings.

The companies with a higher possibility of manipulating earnings through DSRI, GMI, and SGI are having a higher possibility of manipulating earnings through early recognition of revenue. Recording high amounts of revenue in the last month of the year and reversing it subsequently in the next year and undercutting prices when making sales to related parties or overpricing to transfer profits within the group. Addition to the above, specially companies tend to record more sales invoices at the end of the month at the cutoff date in the year-end in order to show higher sales compared to the previous financial year for taking more sales incentives and all resulted to record more sales returns in the following month of the reporting period.

Moreover, creation of fictitious creditors and debtors, improperly shifting revenues for a later period, entering in to sales agreements that include terms that preclude revenue recognition, invoicing sales before delivering, existence of transactions which appears overly complex (transactions involve multiple entities within a consolidated group or multiple unrelated third parties), unusual Statement of Financial Position changes or changes in trends or important Financial Statement ratios or relationships (receivables growing faster than revenue), availability of large number of credit entries & other adjustments made to accounts receivables records, unexplained or inadequately explained differences between the accounts receivable sub-ledger and control account or between the customer statement and the account receivable sub-ledger are some probable ways which managers use to inflate the revenue.

Further, companies with a higher possibility of manipulating earnings through DEPI, AQI are tended to adopt to a

policy for recognizing depreciation, capitalizing assets at a later date in comparison to the actual date on which the asset was available for use. Most of the time when there are some idle fixed assets in the company, companies reluctant to record an impairment of assets when their recoverable value is lesser than the net book value in order to record more profits for the period. As well as more revenue nature expenditures used to capitalize as Property Plant and Equipment in order to simulate their costs for a longer period of time by depreciating for more than one year rather than charging directly to the Statement of Comprehensive Income. Addition to that, not terminating and depreciates the asset even if it gets fully depreciated, understating or overstating all provisions or reserves in the same fashion so as to be designed to smooth earnings over two or more accounting periods, missing inventory or physical assets of significant magnitude, engaging in complex transactions that are structured to misrepresent the financial position or financial performances of the entity (foreign currency swap, hedging) are methods where companies tend to manipulate earnings through giving a significant impact to the total assets of the company.

5. Conclusion and Discussion

In this study we investigated whether earnings manipulation exists in Sri using the Beneish model (1999) which is widely accepted method as a successful and important fraud sensitive indicator in detecting earnings manipulation. We selected top most capitalized twenty listed firms at CSE for the period 2013 to 2017 on quarterly basis.

We obtained results for each index variable individually for each company on an average basis for the considered period, and we ranked them in order to see whether they have obtained a similar rank. Interestingly, as per the ranking we identified that, it is not manipulating their earnings at the same degree of significance respective to each index variable. Accordingly, it provides evidence that by just looking at a result given by one index we cannot conclude that a particular company is engaged in earnings manipulation. Because, concerning some index values obtained individually by some companies, they showed the results where such companies are not engaged in the earnings manipulation. On the other hand, in some index variables, such companies suspected high earnings manipulators while other index provide less manipulation. Therefore, by incorporating all the index values obtained pertaining to a particular company in a given period of time M- Score is calculated to detect whether to which region such companies are falling, whether it is for the earnings manipulation region or the non-manipulation region.

Thereby it is identified that according to the different weights given by the model based on the significance of engaging in earnings manipulation whether the companies in the sample are in the manipulation region or the non- manipulation region.

Moreover, the presence of earnings manipulation in a company has to evaluate periodically. This is because, as per the M - Score in some companies, evidenced with high earnings manipulation as well as the periods with non- manipulation of

earnings. Therefore, with the general idea which could be gain on the published financial figures would have the possibility of process with the further actions regarding such companies. That is decision makers should not rely only on the given financial figures and needs to further evaluate the quality of such figures.

In summary we conclude that earnings manipulation exists in the entities listed in the CSE at different degrees based on the financial structure of such companies operating in different sectors. These findings are in line with the findings of earnings management studies conducted to the specific sectors like manufacturing sector in the Sri Lankan context. For example, Wijesinghe and Kehelwalathenna (2017) indicate that earnings manipulations exits in manufacturing sector of CSE. Therefore, our findings on the overall market will benefit for the policymakers and they should take required actions such as to enhance the role of the auditors. Similarly, closer attention should be given to further strengthen the corporate governance and ethics, speciallyto monitor these aspects as corporate governance literature suggest that it minimizes the earnings management (El-Sayed Ebaid, 2013; El Dri et al., 2020).

The study consists few limitations. Firstly, our sample is limited to twenty companies. Then we employed only the Beneish model to capture the earnings management. Therefore, under the Beneish model, if GMI index is greater than 1, the gross margin of the current period has deteriorated. In such situations, there is a higher tendency for such companies to manipulate their earnings. For example, with respect to the company F in the last quarter of 2017, there was a negative figure of -37.8417 which is greater than 1 when it is taken as an absolute figure. However, the negative figure was due to the gross loss obtained in the last quarter of 2017 compared to the prior quarter. In that manner, the gross margin of the current period is deteriorated in company F when compared to the previous quarter in a significant way.

Furthermore, in calculating M- Score as per Beneish model, the incorporation of weightages assigned by the model for a particular quarter, M- Score has resulted a higher negative value whereby pushing company F to the non- manipulator region. Therefore, this result is somewhat contradicting to the assumption of Beneish regarding the value of the GMI. Finally, we mainly limit to use quantitative approach to detect manipulations.

However, we conducted this study to detect whether earnings manipulation exists in CSE using the Beneish (1999) model as it seems that no study is conducted under this method in the Sri Lankan context. With this we suggest future researchers to employ other possible methods of detecting earnings manipulation with qualitative approaches to see whether results are similar or not.

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