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Financial Statements Manipulations Using Beneish Model and Probit Regression Model: A Case of Banking Sector in Kenya

Samuel Ngigi Nyakarimi*, Samuel Nduati Kariuki, Peter Wang'ombe Kariuki
School of Business and Economics University of Embu, Kenya
*Email: ngigi.samuel@student.embuni.ac.ke
Tel.: (+254)720390863

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Abstract

The main objective of the study was to establish whether the banks in Kenya were involved in financial statement manipulations. The study involved all the banks registered and operating in Kenya and whose financial statements are published for public consumption. Beneish five-variable model was first used to categorize the banks as likely non-manipulators and likely manipulators. The probit regression model was used to determine non-manipulators and manipulators based on the averages derived from non-manipulators using Beneish five-variable model. The results obtained showed that 78.8% of all banks were not involved in financial statement manipulations while 21.2% were involved in financial statement manipulations. The study concluded that some banks that were involved in financial statement manipulations. The study recommended that both internal and control auditors should compute individual indices to determine whether the preparers of financial statements were involved in manipulations. Further it was recommended that the organizations should enhance and strengthen the ICS to seal the loopholes utilized in financial statement manipulations.

Keywords: Earning management, Financial statement manipulation, Beneish Model, Probit regression model, Bank, Kenya

Introduction

Financial statement manipulations are sometimes referred as earning management, creative accounting, and financial engineering among other terms. Financial statements are generally manipulated to adjust incomes and expenses to meet certain needs. Manipulations of accounts involve both processes and figures of financial statement (Khaneja, Bhargava & Gupta, 2017). Earning management and accounting fraud involve financial statement manipulation through earning manipulation (Shahzad, 2016). Creative accounting can be abused by the management and sometimes it is difficult to prevent manipulation of financial statements even with strong accounting standards by the people who prepare these financial statements who would like to influence the decision of the financial statements' users (Bhasin, 2016). The management manipulates the financial statements with intention of misleading the shareholders on financial position of organization and to ensure that the set financial target is met. The information asymmetry between the management who access financial information and control financial reporting and the stakeholders outside the organization makes it easy to manipulate financial statements to reflect favourable results (Abbadi, Hijazi & Al-Rahahleh, 2016). Earning management is more rampant in small firms this because large firms have effective internal control system and qualified and competent auditors. Despite strong internal control systems enjoyed by large firms, managements circumvent them and report the desired financial

levels. Large firms mainly manipulate financial statements in order to reduce political costs (Usman, Noor, Khurshid & Mahmood, 2015).

The most used means of perpetrating fraud in many organizations is through accounting and financial records (Blessing, 2015). Creative accounting is termed as the starting point of accounting scandals that are perpetrated through financial statement manipulations (Bhasin, 2016). The manipulation may be due to management of earnings where the managers use judgement in financial reporting to alter the statements to hoodwink the stakeholders about the financial position of the organization also referred to as creative accounting or accounting fraud where rules and principles of accounting are violated (Paolone & Magazzino, 2014). Tieanub and Petraşcua (2014) indicated that fraud can refer to lack of communication of information or communicating false, incorrect or incomplete information and documents. Fraudulent activities may also involve denying third parties information they are entitled to or special information that requires disclosure. Financial frauds have elicited the need for deeper investigations into financial reporting (Blessing, 2015). Fraudulent financial statement reports have grave consequences to the management and stakeholders besides eroding the public confidence on the credibility of financial statements and which put the to the questions the roles played by the management, financial analysts and auditors (Iraya, Mwangi & Muchoki, 2015).

Banking Sector in Kenya

European Investment Bank (EIB) (2013) indicated that Kenya has the most developed banking and financial system in the wider Eastern Africa. Kenya's banking sector is the ranked fourth in size as compared to other in sub-Saharan African countries. There are 43 commercial banks, of which 13 are foreign, and have set up 1,161 branches across the country (Akelola, 2015). Kenya is the only country in the Eastern Africa region with substantial banking activities abroad, mainly in the neighbouring countries. In expanding businesses, around ten Kenyan banks have established branches in the neighbouring countries, around 223 branches have been established in larger Eastern Africa. In addition, the central bank licensed six deposit-taking microfinance institutions (EIB, 2013). Kenyan banks are supervised and controlled by CBK, based on the guidelines provided by Basel Committee. Regardless of these supervision and control, frauds in banks are on the rise. In exercise of its supervisory and control powers anchored in Central Bank Act and Banking Act, the CBK closed and put three commercial banks under statutory management. These banks were Charterhouse Bank Limited, Dubai Bank Limited and Imperial Bank Limited (Ogola, K'Aol & Linge, 2016)

Research Objective

The main objective of the study was to establish the extent of financial statements manipulation in banking sector in Kenya.

Literature Review

The financial statement users must undertake thorough analysis to ascertain the credibility of statements beyond the opinion of the auditor (Zita, 2016). Mehta and Bhavani (2017) in their study stated that Beneish model is an appropriate tool to detect financial fraud and engagement in financial manipulation. The study indicated that the model utilizes ratios derived from the financial statements of organizations. The financial users can benefit from identification of earning management as they can be able to project profitability, determine the value of the firm as well assess the performance of the organization (Mahama, 2015). The Beneish M-score model has been fronted as a reliable tool for fraud detection (Talab, Hammood & Ali, 2017). MacCarthy (2017) stated that Beneish model is applied to distinguish organizations that have manipulated financial statements.

Research studies on financial statement manipulations, earning management and creative accounting have been undertaken and various conclusions drawn. The study by Zita (2016) applied Beneish model in detection of financial statement manipulation and the study concluded that there was low motivation to manipulate financial statements. Mehta and Bhavani (2017) studied application of forensic tool in detecting fraud in Toshiba company and applied Beneish model. The study concluded that the company was not manipulating earnings based on the results of Beneish model. Mavengere (2015) utilised a five ratio Beneish model to evaluate earning management of a manufacturing firm for years between 2011 and 2014, the study concluded that the firm manipulated earnings except for years 2011 and 2014. Omar, Koya, Sanusi and Shafie (2014) in their study on financial statement fraud, used Beneish model and the study concluded that the company had manipulated earnings. However, the researchers advised the application of another tool to strengthen the investigation.

The study undertaken by Mahama (2015) on corporate and financial fraud in Enron showed that the company may have been involved in financial statement manipulation based on Beneish m-score findings. Blessing (2015) carried out empirical analysis on the use of forensic accounting techniques in curbing creative accounting and the study concluded that forensic accounting techniques applied by accountants are useful in addressing creative accounting problem. MacCarthy (2017) utilised Beneish model to detect financial fraud and corporate failure in Enron corporation and the study concluded that the organization manipulated financial statements between 1998 and 2000. Iraya, Mwangi and Muchoki (2015) studied the effects of governance practices of earnings management in companies listed at Nairobi securities exchange and found that external board of directors in an organization can provide balance that is required to in monitoring earnings management within the organization. Haque, Mughal, and Zahid, (2016) evaluated the earning management and the role accounting conservatism at firm level and the study concluded that highly conservative firms practice less earning management as compared with less conservative firms. Usman, Noor, Khurshid and Mahmood (2015) on their research study on impact of firm size on earning management concluded that larger firm practice earnings management more than the smaller firms. The findings are contrary with the findings of Abbadi, Hijazi and Al-rahahleh (2016) who in their study titled corporate governance quality and earnings management, concluded that larger firm are not likely to be engaged in earnings management.

Methodology

The study involved all banks registered and operating in Kenya. The study utilized secondary data. The financial statements of 33 banks of between 2016 and 2017 were analysed. The study involved two levels of analysis; first Beneish five variable model was used to categorize banks as likely non-manipulators and likely manipulators, then probit regression model was used to analyse the data to determine whether the banks actually manipulated their financial statements. Equation 1 was used to analyse data based on Beneish model whereas equation 2 was used to analyse data using probit regression model

Beneish Five Variable M-score

$$\mathbf{M = \beta_0 + \beta_1\ DRSI + \beta_2\ GMI + \beta_3\ AQI + \beta_4\ SGI + \beta_5\ DEPI \ldots\ldots\ldots\ldots\ 1}$$

M is Beneish M-score
DRSI is Days' Sales in Receivable Index.

GMI is Gross Margin Index.
AQI is Asset Quality Index
SGI is Sales growth Index.
DEPI is Depreciation Index.
β_0 is constant or coefficient of intercept.
$\beta_1 - \beta_8$ are corresponding coefficients for the respective

$$pr(Y = 1|X) = \phi(X^{n}\beta) \quad \ldots\ldots\ldots \quad \ldots.\ \mathbf{2}$$

Where 1 represents manipulators

Financial Statements Analysis for Income Manipulations

This section represents the findings of audited financial statements analysis for data manipulations using Beneish M-score Model. The audited financial statements used are for all banks registered and operating in Kenya for the periods under analysis are 2016 and 2017. The banks are used because their accounts are made public, financial statements are prepared as per guidelines and regulatory framework of international accounting standards and also require public scrutiny. The financial statements used are the latest available and audited accounts. Audited accounts are ideal as the external auditors have verified and agreed that the statements show true and fair view of the status of the organization.

The original Beneish model had eight financial rations that included; Days Sales in Receivable Index (DSRI), Gross Margin Index (GMI), Asset Quality Index (AQI), Sales Growth Index (SGI), Depreciation Index (DEPI), Sales, General and Administrative Index (SGAI), Leverage Index (LVGI) and Total Accruals to Total Assets (TATA). Further research on model was carried out and three ratios (SGAI, LVGI and TATA) were found to be insignificant and were dropped from the model (Feruleva & Shtefan, 2017). This study therefore utilised five ratios Beneish model based on the significance of ratios.

Days Sales in Receivables Index

Days sales in receivable index (DSRI) measures the ratio of receivables to the sales of current period as compared to immediate past period. The ratio above one, indicates sales to receivables of the current period is higher than that of the previous period. Any large increase may indicate revenue inflation (Talab, Hammood & Ali, 2017). The increase sales in receivables may as well indicate change in credit policy, although Beneish stated that it may be due to overstatement of both revenues and profits (Paolone & Magazzino, 2014). DSRI is derived as shown by equation 3:

$$\text{DSRI} = \frac{\text{Net Receivables n/Sales n}}{\text{Net Receivables n}-1\text{/Sales n}-1} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ 3$$

Gross Margin Index

Beneish indicated that there is positive relationship between the gross margin index (GMI) and prospect of committing fraud (Feruleva & Shtefan, 2017). The GMI of less than one, shows negative firm's prospects and it would be incentive to manipulate accounts to conceal the poor performance of the business (Talab, Hammood & Ali, 2017). GMI is derived as shown in equation 4:

$$\text{GMI} = \frac{\text{Sales n}-1-\text{Cost of Sales n}-1\text{/Sales n}-1}{\text{Sales n}-\text{Cost of Goods n/Sales n}} \quad \ldots\ldots \quad ..\ 4$$

Asset Quality Index

Asset quality index (AQI) compares current assets and property, plant and equipment with the total assets of the firm (Ahmed & Naima, 2016). The index of greater than 1, indicates that the firm might be involved in earning management of capitalizing costs or suspending costs recognition (Talab, Hammood & Ali, 2017). The AQI is measured as fin equation 5:

$$AQI=\frac{1-(\text{Current Asset n}+\text{PPE n})/\text{Total Assets n}}{1-(\text{Current Asset n}-1+\text{PPE n}-1)/\text{Total Assets n}-1} \quad \ldots\ldots\ldots\ldots 5$$

Sales Growth Index

Sales growth in firms does not necessarily indicate manipulation of accounts, however any

firm with growth in sales are likely to commit fraud on financial statements due to undue pressure to attain the set profitability targets (Paolone & Magazzino, 2014). Sales Growth Index (SGI) is used to measure the improvement in sales in the current period as compared to the previous period. Any value above one show that the revenue has increased and any value of less than one indicates negative growth of revenue (Talab, Hammood & Ali, 2017). SGI is derived as indicated in equation 6:

$$SGI = \frac{\text{Sales n}}{\text{Sales n}-1} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad \ldots \quad \ldots\ldots 6$$

Depreciation Index

Depreciation decrease may be due to adjustment of economic life of fixed assets which may be used to show improved profitability in the financial statement. The depreciation index and falsification of profits have positive relationship (Feruleva & Shtefan, 2017). Depreciation index (DEPI) of more than one, indicates that the firm may have adjusted the economic life of the fixed assets upwards to reduce depreciation or may have changed the depreciation method and used a method that will show low depreciation and therefore report more profits (Talab, Hammood & Ali, 2017). DEPI is computed as indicated in equation 7:

$$DEPI = \frac{\text{Depreciation n}-1/(\text{Depreciation n}-1+\text{PPE n}-1)}{\text{Depreciation n}/(\text{Depreciation n}+\text{PPE n})} \ldots\ldots\ldots \ldots 7$$

The study utilized a five variables Beneish model due to the significance of the five ratios in determining the financial statement manipulators as suggested by (Feruleva & Shtefan, 2017). The five variable model is given by equation 8:

M Score = -6.065+ .823 DSRI + .906 GMI + .593 AQI + .717 SGI + .107 DEPI
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Results and Discussion

Based on the model and ratios computed, the M score for each firm was computed and the results presented in table 1.

Table 1. M-Score Results

Bank	DSRI	GMI	AQI	SGI	DEPI	M-SCORE
1	1.025	0.997	0.912	1.055	0.932	-2.92117

Bank	DSRI	GMI	AQI	SGI	DEPI	M-SCORE
2	1.359	-0.306	1.000	0.639	0.809	-4.08605
3	0.949	0.937	0.988	1.222	1.161	-2.84877
4	0.883	0.992	1.038	1.214	0.362	-2.91483
5	1.030	0.997	0.709	0.955	0.814	-3.12176
6	1.280	1.003	0.000	1.059	0.951	-3.24178
7	0.918	1.139	1.122	1.101	1.079	-2.70734
8	1.035	0.558	1.000	0.888	1.081	-3.36228
9	1.100	1.063	1.066	0.974	0.913	-2.76844
10	1.121	0.970	1.027	1.096	0.770	-2.78636
11	1.269	1.372	0.876	0.830	1.000	-2.556
12	1.085	1.080	1.037	1.002	0.925	-2.76122
13	0.293	4.600	0.923	2.283	1.337	0.671048
14	1.058	0.936	0.919	0.948	0.916	-3.02356
15	1.204	-0.332	1.494	0.720	0.828	-3.88412
16	2.035	-0.170	0.949	0.886	2.058	-3.12599
17	1.210	2.306	1.095	1.083	0.685	-1.48079
18	1.359	1.046	1.106	0.789	0.708	-2.70154
19	1.114	3.175	0.073	1.075	0.863	-1.36522
20	1.111	1.172	1.077	1.019	0.986	-2.61403
21	1.046	1.088	0.823	1.048	0.805	-2.89282
22	1.011	0.332	0.766	1.083	1.306	-3.56166
23	1.108	1.083	0.775	0.859	0.691	-3.0225
24	1.140	0.960	1.950	0.920	1.110	-2.32226
25	1.035	1.073	0.950	0.983	0.914	-2.8751
26	0.966	1.207	1.296	1.021	0.883	-2.58137
27	1.237	-0.067	0.825	0.682	0.845	-4.03902
28	1.708	-3.327	0.846	0.529	1.148	-6.66977
29	1.079	0.401	1.211	0.653	1.162	-3.50302
30	1.099	1.333	1.186	1.028	0.108	-2.5009
31	1.060	1.301	0.770	0.971	1.161	-2.73687
32	1.159	2.631	2.078	0.895	0.933	-0.75366
33	1.062	1.064	0.624	1.161	0.937	-2.92426

Beneish suggested that any firm that has an m-score of less or equal to -2.76 based on five variable model is not involved in manipulation of financial statements. However, any m-score of more than -2.76 highly suggests the possibility of earning management (Feruleva & Shtefan, 2017). The results in table 1 show various m-score of various banks. The results show that 21 banks translating to 63.6% of the banks are likely non-manipulators whereas 12 banks representing 36.4% are indicated as likely manipulators. The banks were later categorised as manipulators and non-manipulators based on the results of Beneish model. The banks were categorised as likely non-manipulators and likely manipulators and the categories presented in tables 2 and 3 respectively representing likely non-manipulators and likely manipulators based on Beneish model.

Table 2. Non-Manipulators Based on Beneish Model M-Score

Bank	DSRI	GMI	AQI	SGI	DEPI	M-Score
1	1.025	0.997	0.912	1.055	0.932	-2.92117
2	1.359	-0.306	1	0.639	0.809	-4.08605
3	0.949	0.937	0.988	1.222	1.161	-2.84877
4	0.883	0.992	1.038	1.214	0.362	-2.91483
5	1.03	0.997	0.709	0.955	0.814	-3.12176
6	1.28	1.003	0	1.059	0.951	-3.24178
8	1.035	0.558	1	0.888	1.081	-3.36228
9	1.1	1.063	1.066	0.974	0.913	-2.76844
10	1.121	0.97	1.027	1.096	0.77	-2.78636
12	1.085	1.08	1.037	1.002	0.925	-2.76122
14	1.058	0.936	0.919	0.948	0.916	-3.02356
15	1.204	-0.332	1.494	0.72	0.828	-3.88412
16	2.035	-0.17	0.949	0.886	2.058	-3.12599
21	1.046	1.088	0.823	1.048	0.805	-2.89282
22	1.011	0.332	0.766	1.083	1.306	-3.56166
23	1.108	1.083	0.775	0.859	0.691	-3.0225
25	1.035	1.073	0.95	0.983	0.914	-2.8751
27	1.237	-0.067	0.825	0.682	0.845	-4.03902
28	1.708	-3.327	0.846	0.529	1.148	-6.66977
29	1.079	0.401	1.211	0.653	1.162	-3.50302
33	1.062	1.064	0.624	1.161	0.937	-2.92426
Average	**1.172**	**0.433**	**0.887**	**0.931**	**0.973**	

The results represented in table 2 show that 21 banks were likely non-manipulators based on Beneish five variable model.

Table 3. Manipulators Based on Beneish Model M-Score

Bank	DSRI	GMI	AQI	SGI	DEPI	M-Score
7	0.918	1.139	1.122	1.101	1.079	-2.70734
11	1.269	1.372	0.876	0.83	1	-2.556
13	0.293	4.6	0.923	2.283	1.337	0.671048
17	1.21	2.306	1.095	1.083	0.685	-1.48079
18	1.359	1.046	1.106	0.789	0.708	-2.70154
19	1.114	3.175	0.073	1.075	0.863	-1.36522
20	1.111	1.172	1.077	1.019	0.986	-2.61403
24	1.14	0.96	1.95	0.92	1.11	-2.32226
26	0.966	1.207	1.296	1.021	0.883	-2.58137
30	1.099	1.333	1.186	1.028	0.108	-2.5009
31	1.06	1.301	0.77	0.971	1.161	-2.73687
32	1.159	2.631	2.078	0.895	0.933	-0.75366
Average	**1.070**	**1.655**	**1.103**	**1.061**	**0.911**	

The results in table 3 indicate that twelve banks could have been involved in earning management as suggested in the study carried out by Feruleva and Shtefan (2017).

Probit Regression Analysis on Financial Statement Manipulation

The study intended to categorise banks as manipulators and non-manipulators. The dependent variable was dichotomous in nature. Omar, Koya, Sanusi and Shafie (2014) advised the application of another tool to strengthen the investigation after application of Beneish model. The Beneish model cannot be able to detect financial manipulation completely (MacCarthy, 2017). Therefore, there is need for further analysis. Shah and Shanwari (2015) indicated that model with dichotomous dependent variable cannot be analysed using ordinary least square regression as the results will be inappropriate, therefore they advocated for the use of probit regression model. The ratios computed were used for further analysis to determine the non-manipulators and manipulators using probit regression model. The averages of the ratios for non-manipulators were used as the benchmark values for the analysis to determine manipulators as suggested by (Feruleva & Shtefan, 2017). Probit regression model applied is represented by equation 9

$$pr(Y = 1|X) = \phi(X^{n}\beta) \quad \ldots\ldots\ldots \quad \ldots. 9$$

Where 1 represents manipulators

The averages of non-manipulators based on Beneish model are presented in table 4.

Table 4. Benchmark for Variables

Variable	**DSRI**	**GMI**	**AQI**	**SGI**	**DEPI**
Benchmark	1.172	0.433	0.887	0.931	0.973

The probit regression was undertaken. Results of the probit regression model that was used for further analysis to determine the manipulators or non-manipulators are presented in table 5.

Table 5. Probit Regression Coefficients

Parameter	**B**	**Std. Error**	**Hypothesis Test**		
			Wald Chi-Square	**df**	**Sig.**
(Intercept)	101.394	6.0923	276.988	1	.000
DSRI	40.097	3.0158	176.775	1	.000
GMI	-128.995	2.6037	2454.430	1	.000
AQI	-102.915	2.4494	1765.395	1	.000
SGI	142.541	5.1477	766.734	1	.000
DEPI	-35.359	.8019	1944.136	1	.000
Likelihood Ratio Chi-Square	43.262				
df	5				
Sig	0.000				
Dependent Variable: Manipulator Model: (Intercept), DSRI, GMI, AQI, SGI, DEPI					
a. Fixed at the displayed value.					

The results in table 5 show a chi-square value of 43.262 and p value of 0.0001 which shows that the model fits well. Further the coefficients of DSRI (40.097), GMI (-128.995), AQI (-102.915), SGI (142.541) and DEPI (-35.359) are all statistically significant as the p values are less than the critical value of 0.05. The coefficients obtained were substituted into Beneish model to form equation 10.

Revised M-Score = 101.394+40.097 DSRI - 128.995 GMI - 102.915 AQI + 142.541 SGI - 35.359 DEPI …….... 10

The coefficients from probit regression and the averages of non-manipulator used as benchmarks were used to compute the revised m-score to determine the manipulators and non-manipulators. The new m-score was calculated as shown in equation 11

Revised M-Score = 101.394+40.097 (1.172) - 128.995 (0.433) - 102.915 (0.887) + 142.541 (0.931) - 35.359 (0.973) = 99.56 ……. 11

Financial Statements Manipulation Results

The financial statements analysis based on revised m-score is shown in table 6. The code column represents non-manipulators (0) and manipulators (1). The results show that 26 banks translating to 78.8% are non-manipulators and 7 banks translating to 21.2% are manipulators. Agbenyo, Jiang and Cobblah (2018) stated that if the elements of ICS are working properly, the financial statement of the organization will be qualitative and there will be no fraud. The recording of errors committed, loss of assets, inefficiencies and wrong decisions can be addressed by strong ICS. Weak ICS will increase fraud through unqualified financial statements (Widyaningsih, 2016). Implementation of internal controls and internal audit will improve the quality of financial reporting, thus reducing chances of fraud (Kewo &Afiah, 2017). The results in table 6 indicate that twenty-six banks who are non-manipulators have strong ICS and are able to eliminate fraud and seven banks have weak ICS and are unable to prevent fraud as suggested by (Widyaningsih, 2016).

Table 6. Results on Non-Manipulators and Manipulators

Bank	DSRI	GMI	AQI	SGI	DEPI	M-SCORE	Code
1	1.025	0.997	0.912	1.055	0.932	37.45	0
2	1.359	-0.306	1	0.639	0.809	154.92	1
3	0.949	0.937	0.988	1.222	1.161	50.03	0
4	0.883	0.992	1.038	1.214	0.362	62.26	0
5	1.03	0.997	0.709	0.955	0.814	48.46	0
6	1.28	1.003	0	1.059	0.951	140.66	1
7	0.918	1.139	1.122	1.101	1.079	-5.41	0
8	1.035	0.558	1	0.888	1.081	56.35	0
9	1.1	1.063	1.066	0.974	0.913	5.22	0
10	1.121	0.97	1.027	1.096	0.77	44.52	0
11	1.269	1.372	0.876	0.83	1	-31.91	0
12	1.085	1.08	1.037	1.002	0.925	8.98	0
13	0.293	4.6	0.923	2.283	1.337	-297.08	0

Bank	DSRI	GMI	AQI	SGI	DEPI	M-SCORE	Code
14	1.058	0.936	0.919	0.948	0.916	31.24	0
15	1.204	-0.332	1.494	0.72	0.828	112.09	1
16	2.035	-0.17	0.949	0.886	2.058	160.78	1
17	1.21	2.306	1.095	1.083	0.685	-130.09	0
18	1.359	1.046	1.106	0.789	0.708	-5.44	0
19	1.114	3.175	0.073	1.075	0.863	-148.29	0
20	1.111	1.172	1.077	1.019	0.986	-5.69	0
21	1.046	1.088	0.823	1.048	0.805	39.21	0
22	1.011	0.332	0.766	1.083	1.306	128.47	1
23	1.108	1.083	0.775	0.859	0.691	24.37	0
24	1.14	0.96	1.95	0.92	1.11	-85.53	0
25	1.035	1.073	0.95	0.983	0.914	14.51	0
26	0.966	1.207	1.296	1.021	0.883	-34.63	0
27	1.237	-0.067	0.825	0.682	0.845	142.07	1
28	1.708	-3.327	0.846	0.529	1.148	546.79	1
29	1.079	0.401	1.211	0.653	1.162	20.29	0
30	1.099	1.333	1.186	1.028	0.108	-5.83	0
31	1.06	1.301	0.77	0.971	1.161	-5.81	0
32	1.159	2.631	2.078	0.895	0.933	-310.79	0
33	1.062	1.064	0.624	1.161	0.937	74.87	0

NB: The banks names have been omitted in the analysis to safeguard the confidentiality of the banks as promised during data collection and ethical practises in research studies.

Conclusion

The study further analyzed the financial statements using Beneish model and probit regression model to supplement the primary data collected. The analysis was to establish whether the banking institutions manipulated financial statements for favourable earnings reporting. The results showed that seven banks out the total thirty-three banks analyzed may have been involved in earning management or financial statements manipulation.

Further, financial statements were analyzed using Beneish and probit models to determine whether the banks practised earning management. The results showed seven banks practised earning management, it was therefore concluded that earning management or financial statement manipulation is rife in some banks and the auditors should focus mainly on the loopholes that are provided by laws while scrutinizing financial statements of organization. The study concluded that the banks that were classified as manipulators using the revised m-score have weak ICS and therefore are not able to prevent from occurring.

Recommendations

The analysis of financial statements showed that some banks engage in earning management. This could be due to the loopholes in laws and regulations or due to fraudulent activities and laxity on the part of auditors. The study recommends that the government should legislate to conceal the loopholes in law that might be used by the fraudsters. The manipulation of the financial statements could be detected by the auditors in they scrutinize the statements properly Therefore it is further

recommended that organizations ensure that both internal auditor and external auditor should calculate individual indexes and confirm them before writing a report on financial position of the organization. The analysis of each index will ensure that any noticeable or significant change on index is investigated as it may signal fraud. This will reduce chances of the organization being defrauded. The management of these banks must enhance and strengthen the ICS to prevent perpetration of fraud.

The government should also come up with the policy document that can be able seal the loopholes in accounting standards and other regulations that are used by the firms to manage earnings and defraud the investors.

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