



International Journal of Applied Business and Economic Research

ISSN : 0972-7302

available at <http://www.serialsjournals.com>

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Volume 15 • Number 23 (Part 2) • 2017

Role of Beneish M-score Model in Detecting of Earnings Management Practices: Empirical Study in Listed Banks of Iraqi Stock Exchange

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ABSTRACT

One of the most prevalent practices affecting the financial reporting quality in the company's financial statement is earning management. Earning management affects the process of showing the real performance of companies through the exploitation of accounting policies in the form of information that does not reflect the real performance of the companies. The use of M-score model is important in the discovery of earning management practice in Iraqi stock exchange listed companies. Being added as a new measure is another importance of this research which can be applied to local environment in the field of research. The sample of the research that represented the listed banks in the Iraqi stock exchange amounted to 23 while 2014 and year 2015 are considered as the base year. It is found from the result that there is existence of earnings management practices for most of the banks listed in the Iraqi stock exchange. The researchers recommend the practitioners to be more professional by adopting international audit quality standards to reduce the practices of earning management. The financial quality reporting is affected by the practices and the decisions of relevant parties involved. This study therefore opines that the M-score model is a useful technique to detect earning manipulations and behavior of the companies. Also, it can be applied to improve financial reporting quality for the protection of potential investors.

Keyword: Earnings Management, Beneish M-score model, Banks, Iraq.

1. INTRODUCTION

Jensen and Meckling (1976), show that there is a conflict of interest between shareholders and debtholders. This conflict arises because shareholders (or managers, acting on behalf of shareholders) can expropriate

wealth from debt holders in several ways such as claim dilution, under investment, and asset substitution or risk shifting Agency theory (Dhole, Manchiraju, and Suk, 2016; Talab, 2015; Mashhadani and Talab, 2013; Talab, 2009).

According to (Tamimi and Flayyih, 2015), the conflict of interest in the company appears under the theory of the Agency in various forms and the conflict of interest the shareholders and managers highlight the conflict's situation when the directors are not the right holders of the net assets of the company. This is because they do not own shares in their capital, or they have a small part of it; therefore, they do not bear an important share of the effects of their decisions on the wealth of the owners. The second type of conflict of interest is between the shareholders and bondholders. The creditors have a primary right in part of the company's profits in the form of interest, and as a repayment to the principal. They also have right to the assets of the company in case of bankruptcy. However, the shareholders retain some control over operational decisions through management of the company; this affects the cash flows and the corresponding risks. Creditors lend capital to the company at high interest rates which create risk for the company's existing assets and on the capital structure as a result of financing by borrowing and property rights, as well as projections of changes in the risk of these variables

Therefore the in the recent time financial reporting, earning management has been a subject of concern to the relevant stakeholders. Those practices consequently led to total collapse of affected firms, loss of jobs and loss of investment (Abdullahi & Ibrahim, 2017). A number of major financial scandals, like Enron and WorldCom in the US, or Pacific Electric Wire & Cable, Procomp, Infodisc Technology, and Simmit Technology in Taiwan, arose in the early 2000s (Chen, 2016). On this basis was issued 2002 Act of Sarbanes-Oxley (SOX, US House of Representative, 2002).

Little steps have been taken to make provision for accurate definitions of earning management for an expression that is common. Earning management is the manipulation of financial accounting results in order to create altered impression of business performance. It is naturally expected that managers will choose policies in order to maximize the market value or own utility of the company given that managers can choose policies of accounting from a set such as GAAP. This is simply earning management. Some studies focused on the problems of financial reporting that are connected with abusive earning management by public sector in 1999. Example of abusive earning management is the use of deceit to extort the true financial performance of the company in order to achieve a particular objective (Mulford & Comiskey, 2002).

Earning management practiced by opportunistic reporting accruals is not necessarily a violation of rules set by GAAP. Companies may select among the accounting methods in many cases. The right choice is meant to be the choice that best reflects the economy of the underlying transaction in the spirit of high quality financial reporting such as applying quick depreciation for long term assets that lose value more in their lives of services (Dechow & Schrand, 2004; Al-taie, Flayyih, and Talab, 2017).

The problem of this research is to find out whether the banks listed in the Iraqi Stock Exchange exercise earning management when preparing financial statements or not. The use of M-score model is important in the discovery of earning management practices in the listed banks of Iraqi stock exchange. Being added as a new measure is another importance of this research which can be applied to local environment in the field of research. The aim of the research is to provide a conceptual framework for earning management and the

most important way of measuring it in the listed companies. The sample of the research that represented the listed banks in the Iraqi stock exchange amounted to 23 while 2014 and year 2015 are considered as the base year. It is found from the result that there is existence of earnings management practices for most of the banks listed in the Iraqi stock exchange. The researchers recommend the practitioners to be more professional by adopting international audit quality standards to reduce earnings management practices. These practices affect the financial reporting quality and the decisions of relevant parties involved.

Many researchers 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 EM, the Beneish M-score model was implemented on different firms globally so as to detect the presence of income manipulation. This can be easily found in India, US and Italy. 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 EM field. According to previous literature review, M-score model is chosen as a detection tool in this study. With the presence of inconsistencies, fraud can always be unfolded as there are interconnections between income statement, statement of cash flow and balance sheet. By taking ratio analysis into account, many users and researchers believe that a suitable tool to support auditors and detecting accounting fraud is M-Score model.

2. LITERATURE REVIEW

The M-score model was first used by Beneish (1999) in detecting earning management and that was how Beneish was named after the M-score model. The objective of this study is to design a come up with a model that can detect earning management fraud; half of the companies involved in the manipulation will be identified by the model prior to the public recovery.

(Marinakos, 2011) studied Beneish M-score model in order to propose earning manipulation-detecting model. The outcome suggests that the improved model identifies potential manipulators. Similarly, (Dechow, Ge and Larson, 2011) added Beneish M-score model to other models developed to deduct earning management, then came up with Z-score model. The study concludes that the Z-score provides a supplementary and complementary measure to researchers for discretionary accruals for identification of low quality earning firms.

In another vein, (Aris, Othman, Arif, Malek and Omar, 2013) analyzed the combined application, process and usage of Beneish Model and law of Benford in detecting fraud in accounting. The study concluded that both methods have its own benefit in preventing and detecting fraud. (Nwoye, Okoye and Oraka, 2013) focused on the level at which the model of Beneish can further empower the possibility of an auditor to disclose financial statement manipulations. The study suggests that the model can efficiently improve and boost the ability of the auditors to detect fraud. (Franceschetti and Koschtial, 2013) adopted Beneish M-score model in detecting manipulations in earning management small and medium-sized enterprises whether bankrupt or non-bankrupt. The sample gathered from bankrupt enterprise reported 1.6 times red flags more than the enterprises with no bankruptcy.

(Omar, Koya and Sanusi, 2014) investigated analyzed a detection technique involved when a fraud was committed in a local case. This study suggests that the company involved in manipulation of financial statements. (Mahama, 2015) applied the Beneish M-score and Alman's Z-score models to evaluate how regulators, stakeholders and investors can detect a financial stress in a company early. The models in this case showed that Enron was in financial recession since 1997 and for that reason; there was an engagement manipulation of earning. (Kaur, Sharma and Khanna, 2014) studied the level of earning management in 6 popular sectors of India. Two popular techniques of detecting earnings management, Modified Jones Model and Beniesh M Score were employed to measure earning management. The study filled the gap of earning management literature caused by the lack of an empirical and practical study of earning management in India.

(Anh and Linh, 2016) applied the model of Beneish M-score in detection earning management on the non-financial listed companies of Vietnamese. The study concludes that the model is a useful technique to detect behavior of earning manipulators from the companies and this can be applied to improve the quality of financial reporting and a better protection for investors. (Aghghaleh and Rahmat, 2016) empirically investigated the capabilities of two-finance-based models namely: Dechow's F-score, and Bebeish's M-score to predict and detect FSF for companies in Malaysia. The study compared the models by inclusion of error rates present in both models. Also, financial data available in the Malaysian listed companies are used using a matched pair between 2001 and 2014. The result showed that both models are effective when it comes to predicting fraudulent and non-fraudulent companies.

Also, (Kamal, Salleh and Ahmad, 2016) used the Beneish model as a tool of forensic to measure the potential earning manipulation in the statement of the finance of the firms. One of tools was said to have detected financial statement fraud triggered by earning manipulation. The model is said to be effective to detect 76 per cent of the firms in earning manipulation while passing through the actions of accounting enforcement agency by the United State Securities and Exchange Commission (U.S. SEC). The model of earning manipulation was successful in the discovery of 71 per cent of the most prominent and fraudulent financial reporting scandals in the United States prior to public announcement. Therefore, this study assessed the Beneish M-score's model's reliability in detecting fraud in financial statement and earning manipulations committed by public companies in Iraq.

Definition of Earnings Management

According to (Anh and Linh 2016) "Earnings management occurs when managers use judgment in 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. (Dechow & Schrand, 2004) Earnings are composed of cash flows and accruals, and the manipulation of either component will affect the earnings number. A manager can take real economic actions that affect cash flows. Examples are cutting research and development (R&D) expenditures and boosting sales by offering products at a discount. The manipulation of real transactions is not a GAAP violation as long as the company properly accounts for the transaction. And these actions generally do not result in a qualified audit opinion or an enforcement action by the SEC. Nonetheless, such actions can have a significant impact on earnings quality and

devastating effects on the company's future performance and the transactions are a form of earnings management.

The different definitions of earnings management is summarized; classifying them as white, gray, or black. Beneficial (white) earnings management enhances the transparency of reports; the pernicious (black) involves outright misrepresentation and fraud; the gray is manipulation of reports within the boundaries of compliance with bright-line standards, which could be either opportunistic or efficiency enhancing (Ronen & Yaari, 2008):

1. White: Earnings management is taking advantage of the flexibility in the choice of accounting treatment to signal the manager's private information on future cash flows.
2. Gray: Earnings management is choosing an accounting treatment that is either opportunistic (maximizing the utility of management only) or economically efficient.
3. Black: Earnings management is the practice of using tricks to misrepresent or reduce transparency of the financial reports.

Models of Detecting Earnings Management

(De Angelo, 1986), (Healy, 1989), (Jones, 1991) and (Dechow, Sloan and Sweeny, 1995) evaluated the importance of models used in studying earning management. Our study aimed to use a new model in companies listed in the Iraqi stock exchange to detect the earnings management, as most of the studies that dealt with the disclosure of earnings management used the modified model Johnson 1990. This study was first used in the use of Beneish M-score model in Detecting Earnings Management in Iraq, and before starting to use Beneish M-score model we review the most important models used in measuring earnings management.

1. **De Angelo model 1986:** De Angelo presented a model for optional entitlements as shown in the following equation:

$$NDA_t = TA_{t-1} / A_{t-2}$$

2. **Healy model 1989:** The Healy model for optional receivables NDA_t means that the total receivables are measured by the total assets A_{t-2} in the estimated period, so that the optional receivables are measured in the equation below:

$$NDA_t = 1/n \sum(TA_y / A_{y-2})$$

3. **Jones model 1991:** The main objective of the Jones model is to control the impact of changes in the company's circumstances when calculating non-optional receivables, which can be calculated by the following equation:

$$NDA_t = \alpha_1(1/A_{t-1}) + \alpha_2(\Delta REV_t / A_{t-1}) + \alpha_3(PPE_t / A_{t-1})$$

4. **Model Jones Rectifier:** In order to exclude the intuitive bias in the Jones model in the measurement of optional entitlements, and to reduce errors in the measurement of optional entitlements more prudently, the model variables were calculated under the following equation:

$$NDA_t = \alpha_1(1/A_{t-1}) + \alpha_2[(\Delta REV_t - \Delta REC_t) / A_{t-1}] + \alpha_3(PPE_t / A_{t-1})$$

5. **Dechow, Sloan and Sweeney model, 1995:** This model was formulated in the light of the optional entitlements model for Jones (1991), as shown below:

$$TA_t = (\Delta CA_t - \Delta CL_t - \Delta Cash + \Delta STD_t - Dep_t) / (A_{t-1})$$

6. **Beneish M-score model:** Various fraud prediction tools have been developed to detect financial statement fraud triggered by earnings manipulation. Among them is the Beneish M-Score model as a financial forensic tool to gauge potential earnings manipulation in firms' financial statements (Kamal, Salleh & Ahmad, 2016).

M-score model is a mathematical model that was created by Professor Messod Beneish. Using 8 variables related to financial ratios, Beneish (1999) developed a powerful tool in distinguishing earnings manipulators and nonearning manipulators. Since the introduction of the original M-score, the model has been widely used in many financial statement academic researches, articles directed at auditors, certified fraud examiners and investment professionals (Anh & Linh, 2016). Beneish, (1999) is built a set of eight indicators (DSRI, GMI, AQI, SGI, DEPI, SGAI, LVGI and TATA) which allow us to identify the probability of earnings manipulation (Francesco & Magazzino, 2014). The model is measured by the following equation:

$$\text{M-score} = -4.84 + 0.920 \cdot \text{DSRI} + 0.528 \cdot \text{GMI} + 0.404 \cdot \text{AQI} + 0.892 \cdot \text{SGI} + 0.115 \cdot \text{DEPI} - 0.172 \cdot \text{SGAI} + 4.679 \cdot \text{TATA} - 0.327 \cdot \text{LVGI}$$

The eight indicators of every single nonfinancial listed company are put in to the Beneish regression model. The results will show the Manipulation Score. If the M-score is greater than (-2.22) benchmark, the company should be flagged as earnings manipulators. The M-score model and its 8 indicators are listed below (Beneish, 1999; Omar, Koya & Sanusi, 2014; Anh & Linh, 2016):

1. Days Sales in Receivables Index (DSRI)
2. Gross Margin Index (GMI)
3. Asset Quality Index (AQI)
4. Sales Growth Index (SGI)
5. Depreciation Index (DEPI)
6. Sales General and Administrative Expenses Index (SGAI)
7. Leverage Index (LVGI)
8. Total Accruals to Total Assets (TATA)

Data Collection and Result

1. **Days Sales in Receivables Index (DSRI):** The DSRI measures the ratio of receivables to sales rate in year t compared to year $(t - 1)$. If the DSRI is greater than 1, the percentage of receivables to sales in year t is higher than in year $(t - 1)$. An abnormal large increase in a day's sales in receivables can be the result of revenue inflation. Index expectation: a large increase in the DSRI would be associated with a higher likelihood that revenues/profits are over stated. Table 1 shows the results of the DSRI

$$\text{DSRI} = (\text{Net Receivable}_t / \text{Sale}_t) / (\text{Net Receivable}_{t-1} / \text{Sale}_{t-1})$$

Table 1
Days Sales in Receivables Index (DSRI)

<i>S.No.</i>	<i>Banks</i>	<i>Net receivable/ Sales 2015</i>	<i>Net receivable/ Sales 2014</i>	<i>DSRI</i>
1	Commercial Bank of Iraq	1.49	1.37	1.09
2	Bank Of Baghdad	0.00	0.00	1.28
3	Middle East Investment Bank	1.39	0.69	2.02
4	Investment Bank of Iraq	0.32	0.28	1.15
5	Iraqi National Bank	0.41	0.30	1.37
6	Al-Mansoor Bank for Investment	0.37	0.14	2.62
7	North Bank	2.85	1.04	2.75
8	Credit Bank of Iraq	0.60	0.40	1.49
9	Dar El-salam Investment Bank	0.26	0.19	1.35
10	Gulf commercial Bank	0.47	0.38	1.25
11	Babylon Bank	2.57	0.30	8.60
12	Trans Iraq Bank for Investment	0.56	0.08	7.29
13	Sumer commercial Bank	1.41	0.50	2.83
14	Mosul Bank for Investment	8.79	6.99	1.26
15	Union Bank of Iraq	0.13	0.33	0.40
16	Kurdistan Investment Bank	0.22	0.10	2.23
17	Ashur International Bank	1.74	0.63	2.75
18	United Bank For Investment	1.69	1.29	1.31
19	Dijlah & Furat Bank for Development	1.15	6.16	0.19
20	Elaf Islamic bank	4.37	2.02	2.16
21	Iraqi Islamic bank	1.92	1.04	1.85
22	National Islamic bank	0.30	0.73	0.41
23	Economy Bank For Investment	9.57	5.74	1.67

2. **Gross Margin Index (GMI):** The GMI measures the ratio of the gross margin in year $(t-1)$ to the gross margin in year t . If the GMI is greater than 1, it means the gross margin has deteriorated and it would be a negative signal about the company's prospects. Index expectation: there is a positive relationship between the GMI and earnings management. Table (2) shows the results of GMI.

$$GMI = \frac{[(Sales_{t-1} - \text{Cost of Goods Sold}_{t-1})/Sales_{t-1}]}{[(Sales_t - \text{Cost of Goods Sold}_t)/Sales_t]}$$

Or

$$\text{Gross margin (GMI)} = (\text{Sales} - \text{Cost of goods sold})/\text{Sales}$$

When AQI is greater than 1, the company has potentially increased its involvement in cost deferral. An increase in asset realization risk indicates an increased propensity to capitalize and defer costs which is a sign of earnings manipulation. Therefore, Beneish expected to find a positive relationship between the AQI. Table (3) explains the results of AQI.

Table 2
Gross Margin Index (GMI)

S.No.	Banks	Gm Percnt _t	Gm Percnt _{t-1}	Gmi
1	Commercial Bank of Iraq	0.56	0.06	0.11
2	Bank of Baghdad	0.49	0.47	0.96
3	Middle East Investment Bank	0.18	0.13	0.74
4	Investment Bank of Iraq	0.53	0.67	1.25
5	Iraqi National Bank	0.34	0.39	1.15
6	Al-Mansoor Bank for Investment	0.64	0.62	0.98
7	North Bank	-0.05	0.29	-5.24
8	Credit Bank of Iraq	0.66	0.63	0.96
9	Dar El-salam Investment Bank	0.41	0.49	1.17
10	Gulf Commercial Bank	0.22	0.50	2.28
11	Babylon Bank	0.23	0.30	1.30
12	Trans Iraq Bank for Investment	0.55	0.74	1.36
13	Sumer commercial Bank	0.36	0.21	0.59
14	Mosul Bank for Investment	0.27	0.21	0.79
15	Union Bank of Iraq	0.09	0.33	3.89
16	Kurdistan Investment Bank	0.63	0.57	0.90
17	Ashur International Bank	0.64	0.42	0.67
18	United Bank for Investment	0.56	0.58	1.04
19	Dijlah & Furat Bank for Development	0.84	-0.01	-0.01
20	Elaf Islamic bank	0.40	0.40	1.00
21	Iraqi Islamic bank	0.54	0.33	0.62
22	National Islamic bank	0.52	1.21	2.32
23	Economy Bank for Investment	0.23	-0.05	-0.20

3. **Asset Quality Index (AQI):** $AQI = [1 - (\text{Current Assets}_t + \text{Plant, Property \& Equipment}_t) / \text{Total Assets}_t] / [1 - (\text{Current Assets}_{t-1} + \text{Plant, Property \& Equipment}_{t-1}) / \text{Total Assets}_{t-1}]$

Table 3
Asset Quality Index (AQI)

S.No.	Banks	$1 - (PPE + CA)/TA_t$	$1 - (PPE + CA)/TA_{t-1}$	AQI
1	Commercial Bank of Iraq	0.15	0.11	1.36
2	Bank Of Baghdad	0.00	0.00	0.00
3	Middle East Investment Bank	0.06	0.04	1.50
4	Investment Bank of Iraq	0.00	0.00	0.99
5	Iraqi National Bank	0.29	0.22	1.32
6	Al-Mansoor Bank for Investment	0.00	0.00	0.67
7	North Bank	0.05	0.04	1.35
8	Credit Bank of Iraq	0.00	0.00	1.05
9	Dar El-salam Investment Bank	0.00	0.00	2.33
10	Gulf commercial Bank	0.13	0.04	2.85

S.No.	Banks	$1 - (PPE + CA)/TA_t$	$1 - (PPE + CA)/TA_{t-1}$	AQI
11	Babylon Bank	0.14	0.14	0.96
12	Trans Iraq Bank for Investment	0.00	0.00	0.57
13	Sumer commercial Bank	0.04	0.03	1.40
14	Mosul Bank for Investment	0.01	0.01	0.76
15	Union Bank of Iraq	0.02	0.02	1.03
16	Kurdistan Investment Bank	0.04	0.03	1.05
17	Ashur International Bank	0.06	0.06	1.08
18	United Bank for Investment	0.06	0.10	0.56
19	Dijlah & Furat Bank for Development	0.09	0.18	0.50
20	Elaf Islamic bank	0.20	0.26	0.75
21	Iraqi Islamic bank	0.05	0.04	1.15
22	National Islamic bank	0.37	0.45	0.83
23	Economy Bank For Investment	0.10	0.08	1.21

4. **Sales Growth Index (SGI):** The metric is a measure of growth in revenue in one year over revenue of a prior year. An index greater than 1.0 represents a positive growth while less than 1.0 represents a negative growth in the year under review. Table (4) explains the results of SGI

$$SGI = Sales_t / Sales_{t-1}$$

Table 4
Sales Growth Index (SGI)

S.No.	Banks	$Sales_t$	$Sales_{t-1}$	SGI
1	Commercial Bank of Iraq	18956130205	18892390616	1.00
2	Bank Of Baghdad	79462590000	76046364000	1.04
3	Middle East Investment Bank	43353971619	35934905389	1.21
4	Investment Bank of Iraq	40860452000	59657473000	0.68
5	Iraqi National Bank	37143738721	37334948347	0.99
6	Al-Mansoor Bank for Investment	37497886589	33299957259	1.13
7	North Bank	47827688000	93990343000	0.51
8	Credit Bank of Iraq	23158480000	26483059000	0.87
9	Dar El-salam Investment Bank	22581681579	28667348363	0.79
10	Gulf commercial Bank	81400977625	87494815267	0.93
11	Babylon Bank	23216983575	20133770887	1.15
12	Trans Iraq Bank for Investment	24365045000	12368312000	1.97
13	Sumer commercial Bank	12778574000	15489605000	0.82
14	Mosul Bank for Investment	7197606114	11357458174	0.63
15	Union Bank of Iraq	75861635661	87590982472	0.87
16	Kurdistan Investment Bank	79636241862	79521125465	1.00
17	Ashur International Bank	33236417000	32692550000	1.02
18	United Bank For Investment	44820720573	47300615124	0.95
19	Dijlah & Furat Bank for Development	55068668934	10842481676	5.08

<i>S.No.</i>	<i>Banks</i>	<i>Sales_t</i>	<i>Sales_{t-1}</i>	<i>SGI</i>
20	Elaf Islamic bank	11547740392	17866375867	0.65
21	Iraqi Islamic bank	19215448000	27183953000	0.71
22	National Islamic bank	68242066617	31165346913	2.19
23	Economy Bank For Investment	30218343098	44214864320	0.68

5. **Depreciation Index (DEPI):** A DEPI greater than 1 indicates that the rate at which tangible assets are being depreciated has slowed-raising the possibility that the company has revised upward the estimates of assets' useful lives or adopted a new method that is income increasing" (Beneish, 1999). Beneish hypothesized a positive correlation between the likelihood of earning management and DEPI. Table (5) explains the results of AQI.

$$DEPI = (\text{Depreciation}_{t-1} / (\text{Plant, Property \& Equipment}_{t-1} + \text{Depreciation}_{t-1})) / (\text{Depreciation}_t / (\text{Plant, Property \& Equipment}_t + \text{Depreciation}_t))$$

Table 5
Depreciation Index (DEPI)

<i>S.No.</i>	<i>Banks</i>	<i>Dep Rate_T</i>	<i>Dep Rate_{T-1}</i>	<i>Depi</i>
1	Commercial Bank of Iraq	0.38	0.20	0.53
2	Bank of Baghdad	0.05	0.05	1.02
3	Middle East Investment Bank	0.03	0.02	0.77
4	Investment Bank of Iraq	0.06	0.07	1.07
5	Iraqi National Bank	0.08	0.12	1.52
6	Al-Mansoor Bank for Investment	0.06	0.06	1.03
7	North Bank	0.09	0.06	0.68
8	Credit Bank of Iraq	0.07	0.12	1.73
9	Dar El-salam Investment Bank	0.01	0.06	5.17
10	Gulf commercial Bank	0.10	0.07	0.68
11	Babylon Bank	0.04	0.04	0.98
12	Trans Iraq Bank for Investment	0.06	0.04	0.72
13	Sumer commercial Bank	0.03	0.04	1.44
14	Mosul Bank for Investment	0.15	0.16	1.07
15	Union Bank of Iraq	0.10	0.13	1.25
16	Kurdistan Investment Bank	0.12	0.10	0.83
17	Ashur International Bank	0.04	0.05	1.25
18	United Bank for Investment	0.04	0.04	1.03
19	Dijlah & Furat Bank for Development	0.13	0.12	0.96
20	Elaf Islamic bank	0.08	0.15	1.86
21	Iraqi Islamic bank	0.10	0.10	0.95
22	National Islamic bank	0.09	0.09	0.96
23	Economy Bank For Investment	0.06	0.06	0.97

6. **Sales General and Administrative Expense Index (SGAI):** This index is a measure of the ratio of SGAI to sales in one year over a prior year. As compared to SGAI, a disproportionate

increase in sales would serve as negative indication concerning company future prospects. Table (6) shows the results of SGAI.

$$SGAI = (\text{Selling General \& Administrative Expense}_t / \text{Sales}_t) / (\text{Selling General \& Administrative Expense}_{t-1} / \text{Sales}_{t-1})$$

Table 6
Sales General and Administrative Expense Index (SGAI)

S.No.	Banks	Sga/Sales 2015	Sga/Sales 2014	Sgai
1	Commercial Bank of Iraq	0.41	0.39	1.05
2	Bank Of Baghdad	0.47	0.49	0.96
3	Middle East Investment Bank	0.75	0.81	0.93
4	Investment Bank of Iraq	0.44	0.31	1.40
5	Iraqi National Bank	0.62	0.58	1.07
6	Al-Mansoor Bank for Investment	0.34	0.36	0.94
7	North Bank	0.91	0.66	1.37
8	Credit Bank of Iraq	0.33	0.35	0.94
9	Dar El-salam Investment Bank	0.55	0.48	1.15
10	Gulf commercial Bank	0.53	0.40	1.31
11	Babylon Bank	0.73	0.65	1.11
12	Trans Iraq Bank for Investment	0.43	0.23	1.88
13	Sumer commercial Bank	0.61	0.76	0.80
14	Mosul Bank for Investment	0.61	0.71	0.86
15	Union Bank of Iraq	0.90	0.66	1.37
16	Kurdistan Investment Bank	0.33	0.40	0.83
17	Ashur International Bank	0.35	0.56	0.61
18	united Bank For Investment	0.40	0.38	1.05
19	Dijlah&Furat Bank for Development	0.11	0.76	0.14
20	Elaf Islamic bank	0.40	0.47	0.85
21	Iraqi Islamic bank	0.41	0.63	0.65
22	National Islamic bank	0.25	0.53	0.47
23	Economy Bank For Investment	0.60	0.92	0.65

7. **Leverage Index (LVGI):** The ratio of total debt to total asset is measured by the leverage index. An increase in the gearing of a company that leads to exposure of manipulation is interpreted to be an index greater than 1.0. Table (7) shows the results of LVGI.

$$LVGI = [(\text{Current Liabilities} + \text{Total Long Term Debt}) / \text{Total Assets}] / [(\text{Current Liabilities}_{t-1} + \text{Total Long Term Debt}_{t-1}) / \text{Total Assets}_{t-1}]$$

Or

$$LVGI = \text{Leverage}_t / \text{Leverage}_{t-1}$$

$$\text{Leverage} = \text{Debts} / \text{Assets}$$

Table 7
Leverage Index (LVGI)

<i>S.No.</i>	<i>Banks</i>	<i>Leverage 2015</i>	<i>Leverage 2014</i>	<i>LVGI</i>
1	Commercial Bank of Iraq	0.34	0.37	0.92
2	Bank Of Baghdad	0.83	0.84	0.98
3	Middle East Investment Bank	0.59	0.55	1.07
4	Investment Bank of Iraq	0.49	0.49	1.00
5	Iraqi National Bank	0.51	0.57	0.90
6	Al-Mansoor Bank for Investment	0.73	0.68	1.07
7	North Bank	0.61	0.78	0.79
8	Credit Bank of Iraq	0.51	0.54	0.96
9	Dar El-salam Investment Bank	0.67	0.72	0.94
10	Gulf commercial Bank	0.60	0.58	1.05
11	Babylon Bank	0.32	0.39	0.81
12	Trans Iraq Bank for Investment	0.28	0.19	1.49
13	Sumer commercial Bank	0.29	0.38	0.75
14	Mosul Bank for Investment	0.28	0.24	1.15
15	Union Bank of Iraq	0.59	0.61	0.96
16	Kurdistan Investment Bank	0.50	0.56	0.90
17	Ashur International Bank	0.40	0.38	1.05
18	united Bank For Investment	0.45	0.42	1.07
19	Dijlah&Furat Bank for Development	0.52	0.57	0.92
20	Elaf Islamic bank	0.51	0.45	1.13
21	Iraqi Islamic bank	0.43	0.44	0.98
22	National Islamic bank	0.60	0.49	1.21
23	Economy Bank For Investment	0.61	0.67	0.91

8. **Total Accruals to Total Assets (TATA):** Total accruals are calculated as the change in working capital accounts other than cash less depreciation. Either total accruals or a partition thereof has been used in prior work to assess the extent to which managers make discretionary accounting choices to alter earnings. Total accruals to total assets to proxy for the extent to which cash underlies reported earnings, and expect higher positive accruals (less cash) to be associated with a higher likelihood of earnings manipulation. Table (8) explains the results of TATA

$$TATA = \Delta \text{ Current Assets} - \Delta \text{ Cash} - (\Delta \text{ Current liabilities} - \Delta \text{ Current maturities of LTD} - \Delta \text{ Income Tax payable}) - \text{Depreciation \& Amortization } t$$

Table 8
Total Accruals to Total Assets (TATA)

<i>S.No.</i>	<i>Banks</i>	<i>Total accruals</i>	<i>Total assets</i>	<i>Tata</i>
1	Commercial Bank of Iraq	(39,206,269,407)	414,889,153,817	(0.09)
2	Bank of Baghdad	188,376,349,000	1,549,536,698,000	0.12
3	Middle East Investment Bank	(27,365,653,922)	675,123,601,662	(0.04)
4	Investment Bank of Iraq	(11,341,928,000)	551,734,351,000	(0.02)

<i>S.No.</i>	<i>Banks</i>	<i>Total accruals</i>	<i>Total assets</i>	<i>Tata</i>
5	Iraqi National Bank	59,968,774,316	535,764,591,305	0.11
6	Al-Mansoor Bank for Investment	41,865,238,521	1,075,843,492,887	0.04
7	North Bank	587,897,262,000	850,433,998,000	0.69
8	Credit Bank of Iraq	(79,595,420,000)	618,517,645,000	(0.13)
9	Dar El-salam Investment Bank	34,170,100,724	576,182,838,888	0.06
10	Gulf commercial Bank	21,990,240,398	810,971,493,477	0.03
11	Babylon Bank	32,658,253,767	358,698,930,611	0.09
12	Trans Iraq Bank for Investment	44,358,483,000	379,968,292,000	0.12
13	Sumer commercial Bank	36,998,063,013	369,588,387,000	0.10
14	Mosul Bank for Investment	(43,124,019,509)	365,478,345,227	(0.12)
15	Union Bank of Iraq	189,550,454,741	631,419,566,400	0.30
16	Kurdistan Investment Bank	49,566,519,491	1,022,533,002,343	0.05
17	Ashur International Bank	(50,978,053,000)	451,830,440,000	(0.11)
18	United Bank For Investment	(59,809,420,170)	581,243,597,209	(0.10)
19	Dijlah & Furat Bank for Development	67,518,172,254	349,781,433,053	0.19
20	Elaf Islamic bank	(117,457,354,031)	514,465,301,029	(0.23)
21	Iraqi Islamic bank	4,886,969,000	478,478,052,000	0.01
22	National Islamic bank	(28,771,384,607)	701,994,855,886	(0.04)
23	Economy Bank For Investment	83,623,953,247	530,488,338,188	0.16

9. **Beneish M-score model calculate:** Table 9 contains the results of the calculation of the model and the results of the equation were extracted by using the coefficient of the M model. If the results are greater than -2.22 , Table 9 shows the results of the M. model.

Table (9) shows that the number of banks that manage the profits to 15 banks, which constitute 65.2% of the total sample of 23 banks listed in the Iraqi market for securities Panama, the remaining 34.8% do not exercise profit management when preparing financial statements.

3. CONCLUSIONS

In Iraqi stock exchange, many researchers have documented the existence of earning management practices. The motivation of these practices is to make positive impact on the share price of the company and make possible profit management when the manager recognizes the market value of the company and reported profits. The management of the earning on the market is done by the managers to manage the earnings in the period before the company issues new shares to increase the prices. The researchers used the Beneish M-score model for the first time unlike the previous research in Iraq in a sample of banks listed in the Iraqi Stock Exchange. This model has distinctive characteristics from the previous models used. The model specializes on financial statement of the profit management account and the statement of financial position with cash flows. Earning management is found in most of these banks by the researchers. Therefore this study recommends professional bodies to make more professional effort by adopting international audit quality standards to reduce earning management practices as these practices affect the quality of financial reporting and the decisions of concerned authorities.

Table 9
M-Score

S.No.	Banks	DSRI	GMI	SGI	AQI	DEPI	SGAI	TATA	LVGI	M-Score	Result
1	Commercial Bank of Iraq	1.005	0.058	0.895	0.550	0.061	0.180	-0.442	0.302	-2.311	-
2	Bank Of Baghdad	1.179	0.506	0.932	0.000	0.117	0.166	0.569	0.322	-3.162	-
3	Middle East Investment Bank	1.857	0.388	1.076	0.606	0.088	0.160	-0.190	0.350	-1.145	+
4	Investment Bank of Iraq	1.059	0.658	0.611	0.398	0.123	0.241	-0.096	0.326	-2.462	-
5	Iraqi National Bank	1.261	0.610	0.887	0.533	0.175	0.183	0.524	0.294	-2.375	-
6	Al-Mansoor Bank for Investment	2.407	0.515	1.004	0.271	0.118	0.162	0.182	0.351	-1.220	+
7	North Bank	2.532	-2.767	0.454	0.544	0.078	0.235	3.235	0.258	-7.727	-
8	Credit Bank of Iraq	1.374	0.506	0.780	0.423	0.199	0.161	-0.602	0.312	-1.430	+
9	Dar El-salam Investment Bank	1.244	0.618	0.703	0.942	0.595	0.198	0.277	0.308	-1.522	+
10	Gulf commercial Bank	1.146	1.201	0.830	1.150	0.078	0.226	0.127	0.342	-1.130	+
11	Babylon Bank	7.913	0.684	1.029	0.390	0.113	0.192	0.426	0.266	4.405	+
12	Trans Iraq Bank for Investment	6.704	0.716	1.757	0.232	0.082	0.323	0.546	0.486	3.297	+
13	Sumer commercial Bank	2.605	0.311	0.736	0.564	0.165	0.137	0.468	0.246	-1.311	+
14	Mosul Bank for Investment	1.157	0.416	0.565	0.305	0.123	0.149	-0.552	0.376	-2.245	-
15	Union Bank of Iraq	0.369	2.053	0.773	0.416	0.144	0.235	1.405	0.313	-3.039	-
16	Kurdistan Investment Bank	2.054	0.474	0.893	0.425	0.095	0.143	0.227	0.293	-1.561	+
17	Ashur International Bank	2.532	0.352	0.907	0.435	0.144	0.105	-0.528	0.343	-0.391	+
18	United Bank for Investment	1.208	0.549	0.845	0.225	0.119	0.180	-0.481	0.350	-1.943	+
19	Dijlah & Furat Bank for Development	0.172	-0.006	4.530	0.201	0.111	0.025	0.903	0.300	-1.060	+
20	Elaf Islamic bank	1.990	0.529	0.577	0.305	0.214	0.146	-1.068	0.369	-0.672	+
21	Iraqi Islamic bank	1.702	0.329	0.631	0.463	0.109	0.111	0.048	0.321	-2.085	+
22	National Islamic bank	0.380	1.226	1.953	0.333	0.110	0.080	-0.192	0.396	-1.122	+
23	Economy Bank For Investment	1.534	-0.104	0.610	0.489	0.112	0.112	0.738	0.297	-3.346	-

- The company does not exercise earnings management

+ The company does exercise earnings management

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