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Detecting Fraudulent Financial Statements with Beneish M-Score during the Covid-19 Pandemic

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Abstract

Financial statements are used by many parties in making decisions. In recent years there have been frequent cases of fraudulent financial statements. Based on the report of the Association of Certified Fraud Examiners, the banking and financial sector occupies the top position in cases of fraudulent financial statements. One of model that is often used to find indications of manipulation in financial statements is Beneish M-Score. This study examines whether the Beneish M-Score can be used to predict manipulation in the financial statements of banking companies. The results showed that the Beneish M-Score could predict the manipulation of financial statements.

Keywords
fraudulent financial statement; beneish m-score; banking

I. Introduction

The financial statements present information on assets, liabilities, equity, income, expenses and cash flows (PSAK 1) of an entity within a certain period. The financial information is used as material for consideration by internal and external parties in making business decisions. For example, rating agencies in determining the rating of an entity's debt securities, banks in analyzing the feasibility of providing credit, investors in determining investment in an entity and the regulator. Financial statements must meet several requirements, one of which is accuracy. Accuracy in financial statements means that the information contained in them is in accordance with actual conditions.

Based on the report of the Association of Certified Fraud Examiners (ACFE) in the Asia Pacific Report to Nation in 2020, it was revealed that cases of fraudulent financial statements (FFS) accounted for 15% of the total fraud cases. Indonesia has 36 cases of fraud out of a total of 198 cases in the Asia Pacific region. Overall, banks and financial institutions have the most cases of fraud compared to other business sectors. This fact is in line with conditions in Indonesia in recent times there have been cases of fraud involving banks and financial institutions such as Bank Century, Arjuna Finance, SNP Finance, Bank Bukopin and Asuransi Jiwasraya. One of the causes of fraud is the pressure to achieve financial targets and maintain financial ratios at a good level.

During the COVID-19 pandemic, the government through the Financial Services Authority (OJK) issued an economic stimulus, one of which was through POJK No. 11/POJK.03/2020 concerning National Economic Stimulus as a Countercyclical Policy for the Impact of the Spread of the 2019 Coronavirus Disease. The POJK regarding the economic stimulus was issued to reduce the impact on debtor performance and capacity which is expected to decline due to the COVID-19 outbreak. Sihombing (2020) state that Covid-19 pandemic caused everyone to behave beyond normal limits as usual. The outbreak of this virus has an impact especially on the economy of a nation and Globally (Ningrum, 2020). The problems posed by the Covid-19 pandemic which have become a

global problem have the potential to trigger a new social order or reconstruction (Bara, 2021). This performance can increase credit risk which has the potential to disrupt banking performance and financial system stability. The stimulus is aimed at debtors in sectors affected by the spread of the corona virus. This includes MSME debtors and is implemented with due regard to the precautionary principle. Also, accompanied by a monitoring mechanism to prevent abuse in the application of provisions (moral hazard). For large debtors, this banking stimulus could be a way to restructure their credit. This stimulus could be a way to reduce bad debts as little as possible, which is indeed a threat to the banking industry.

Based on the above conditions, there is potential for banks to take advantage of OJK's stimulus to improve their credit portfolios in order to improve credit quality by abusing them in credit restructuring.

The number of cases of fraudulent financial statements that occur is one of the bases for an analysis of financial statements to be carried out in order to minimize the fraud and be able to detect early on any activity that has the potential to lead to fraudulent financial statements before the case becomes large and can be detrimental to the state. One way to measure manipulation is to use the Beneish ratio index popularized by Beneish (1999). Beneish M-Score ratios used to describe the manipulation of financial statements are Days Sales in Receivable Index, Gross Margin Index, Asset Quality Index, Sales Growth Index, Depreciation Index, Sales General and Administrative Expenses Index, Leverage Index and Total Accrual to Total Assets Index.

The Beneish M-Score was developed by Messod Daniel Beneish. Variables measured using data from the specified year (t) and using data from the previous year (t-1). Beneish M-Score obtained from the results of a solid calculation.

M-Score is this model is a probabilistic model so it cannot detect fraud with 100% accuracy (Beneish, 1999). Beneish M-Score is a method to help uncover companies that are likely to commit fraud on revenues recorded in financial statements (Beneish, 2012).

Beneish ratio indexis a technique used to analyze financial statements in detecting the presence or absence of fraudulent financial statements. This is evidenced by Beneish (1999) who has conducted research on quantitative differences between companies that have been identified to manipulate earnings and those that do not. Beneish performs an analysis using financial data and then calculates financial ratios. This is done to find out whether there are indications of manipulation of the financial statements or not. Beneish (1999) reveals that in general earnings manipulation is indicated by a significant increase in revenue/decrease in company expenses from one year (t) to the previous year (t-1).

This study focuses on testing the effectiveness of the Beneish M-Score model in detecting fraudulent financial statements by calculating the Beneish M value of each financial statement. This study contributes ideas about detecting fraudulent financial statements by calculating the Beneish ratio index. This research is also expected to be able to map the characteristics of the bank with indications of the manipulation it does.

II. Research Method

The type of research used in this research is quantitative research with a descriptive approach. This study uses secondary data in the form of financial statements of banking companies listed on the Indonesia Stock Exchange (IDX) during 2019-2021.

The Beneish M-Score consists of 8 ratios that identify whether the financial statements indicate manipulation. M score >-2.22 is defined as the presence of

manipulation signals in the financial statements. Here is the model for calculating the Beneish M-Score:

$$\text{M-Score} = -4{,}84 + 0{,}92\text{IDSR} + 0{,}582\text{GMI} + 0{,}404\text{IAQ} + 0{,}892\text{ISG} + 0{,}115\text{IDEP} - 0{,}172\text{ISGA} + 4{,}679\text{TATA} - 0{,}327\text{ILEV}$$

Index of Days Sales in Receivables(IDSR) is measured by the ratio of sales receivables in one year compared to the previous year. The higher the IDSR ratio, the more likely it is to be a manipulator. The formula is as follows:

$$\text{IDSR} = \frac{(\text{Account Receivables} / \text{Sales t})}{(\text{Account Receivables} / \text{Sales t-1})}$$

Gross Margin Index(GMI) is a ratio that measures the level of company profitability, this ratio represents the company's prospects in the future. GMI is measured by the following formula:

$$\text{GMI} = \frac{\text{Sales (t-1)} - \text{Cost of Good Sold (t-1)} / \text{Sales (t-1)}}{\text{Sales (t)} - \text{Cost of Good Sold (t)} / \text{Sales (t)}}$$

Index of Asset Quality(IAQ) is defined as the change in asset realization risk, with the following formula:

$$\text{IAQ} = \frac{(1-((\text{Current Asset t} + \text{PPE t}) / \text{Total Asset t}))}{(1-((\text{Current Asset t-1} + \text{PPE t-1}) / \text{Total Asset t-1}))}$$

Index of Sales Growth(ISG) is used to measure revenue growth in the current year from year to year. The formula is as follows:

$$\text{ISG} = \frac{\text{Sales t}}{\text{Sales t-1}}$$

Index of Depreciation(IDEP) is measured by the comparison of depreciation and gross value of fixed assets in the current year with the previous year, with the following formula:

$$\text{IDEP} = \frac{(\text{Depreciation t-1} / (\text{Depreciation t-1} + \text{PPE t-1}))}{(\text{Depreciation t} / (\text{Depreciation t} + \text{PPE t}))}$$

Index of Sales, General and Administrative Expense(ISGA) measures the comparison of selling and administrative expenses in the current year and the previous year. The formula is as follows:

$$\text{ISGA} = \frac{(\text{SGA Expense t} / \text{Sales t})}{(\text{SGA Expense t-1} / \text{Sales t-1})}$$

Total Accruals to Total Asset Index(TATA) explains changes in working capital other than cash minus depreciation from total assets, with the following formula:

$$TATA = \frac{\text{Net Income from Continuing Operation (t) - Cash Flow Operating (t)}}{\text{Total Asset (t)}}$$

Index of Leverage(ILEV) is explained by changes in the company's financial structure. Increased leverage causes an incentive to manipulate earnings. The formula is as follows:

$$ILEV = \frac{\text{((LTD t + Current Liabilities t) / Total Assets t)}}{\text{((LTD t-1 + Current Liabilities t-1) / Total Assets t-1)}}$$

The following is a Beneish Threshold table that is used to determine the indication of manipulation in each index.

Table 1. Beneish Threshold Values for Ratio

Ratio Index	Manipulators	Non-Manipulators
IDSR	1,465	1.031
GMI	1,193	1.041
IAQ	1.254	1.039
ISG	1,607	1.134
EYELASH	1.077	1,001
ISGA	1.041	1.054
SYSTEM	1.111	1.037
ILEV	0.031	0.018

Source: (Beneish, 1999)

III. Discussion

The table below is the result of the calculation of the Beneish M-score for 2019 – 2021:

Table 2. Beneish M-Score 2019

No.	M-Score	IDSR	GMI	IAQ	ISG	EYELASH	ISGA	SYSTEM	ILEV
1	-1.89	0.986	0.810	1,107	1,235	1.014	0.991	0.099	1.030
2**	-1.36	0.843	0.637	1.322	1,571	5,784	1.151	0.064	0.932
3	-2.90	0.692	0.471	0.787	2,124	0.642	1.003	-0.160	0.931
4*	-3.71	0.841	1,282	0.374	0.780	1.056	1,130	-0.192	0.586
5	-1.87	0.906	0.897	1,719	1,115	0.892	0.935	0.077	0.982
6*	-1.61	1.082	0.900	1,588	1.111	0.808	1.033	0.115	1,001
7*	-1.57	0.535	7,669	1.004	0.130	0.000	7.452	-0.051	0.842
8	-2.59	0.974	0.889	0.925	1.125	1.048	0.964	-0.025	0.993
9*	-2.96	1.015	1,000	0.892	1,000	0.832	1,001	-0.088	1.035
10	-2.23	1.083	1.028	1,266	0.973	0.927	1.132	0.024	1,001
11	-2.56	1.042	0.969	0.731	1.032	1,080	1.060	-0.005	0.981
12	-2.40	0.925	0.925	0.922	1.081	0.885	0.996	0.033	0.987
13	-2.67	0.991	0.916	0.808	1.091	0.000	0.980	-0.007	0.995
14**	-2.18	1.077	0.988	0.585	1.012	1,412	1.023	0.068	0.885
15	-2.22	0.944	0.888	1.066	1.126	1.004	0.943	0.048	1,001
16*	-1.64	1,101	1,107	2,273	0.903	0.773	1,155	0.063	0.940
17	-2.87	0.763	1,260	0.703	0.794	0.817	1,158	0.009	0.975

18	-2.26	0.965	0.918	0.702	1.089	1,128	0.993	0.068	0.987
19*	-1.86	0.998	1.032	1,299	0.969	0.736	1.054	0.119	1.006
20	-2.81	1.005	0.965	0.911	1.037	0.940	0.971	-0.065	1.018
21	-2.76	1,135	0.793	0.743	1,262	0.927	1.031	-0.078	1,119
22	-2.01	1.075	0.985	1.318	1.015	0.594	0.988	0.066	0.979
23	-2.51	1.018	0.891	0.850	1.123	1.106	0.862	-0.013	1.018
24*	-2.07	1,213	0.965	0.917	1.036	1,567	0.768	0.032	1.032
25	-2.62	0.944	0.859	0.697	1.164	1,124	0.939	-0.011	1.021
26	-2.57	0.886	0.885	0.837	1,130	1.038	0.941	0.003	0.987
27	-2.59	1.071	0.988	0.388	1.012	0.996	0.983	0.016	1.006
28	-2.53	0.965	0.936	0.773	1.069	1.178	0.966	0.006	0.989
29	-2.68	0.875	0.955	1.021	1.047	1.026	1.026	-0.025	0.981
30	-2.38	1,000	0.944	0.913	1.060	1,191	1.021	0.021	0.998
31	-2.33	1,190	0.925	0.800	1.082	1,000	0.974	0.006	1.017
32	-2.25	1.018	0.918	1.104	1.089	0.960	1,100	0.033	0.990
33	-2.94	0.914	1.094	1.363	0.914	1.253	1,256	-0.102	1,000
34	-1.31	1.545	0.740	1,298	1.351	0.748	0.884	0.082	1.015
35	-2.02	0.952	0.773	1.092	1,293	1,197	0.809	0.057	0.972
36	-2.24	1.086	1.026	1.016	0.975	0.944	1.023	0.037	0.994
37	-2.23	1.118	0.996	0.914	1.004	1.044	1.085	0.036	0.931
38	-2.35	1.145	1.145	1.364	0.873	1.090	1.035	-0.025	0.998
39	-3.04	0.926	0.858	1,512	1.165	1.002	0.814	-0.168	1.026
40*	-1.97	0.971	0.894	1,746	1.118	0.920	0.965	0.041	0.991
41	-2.32	1,147	0.955	0.779	1.047	1,150	1.050	0.021	1.011
42	-2.39	1,143	0.909	0.995	1,101	0.924	0.924	-0.016	1.012
43	-2.53	0.913	0.906	1,115	1.104	0.925	1.036	-0.009	0.986
44*	-1.61	0.996	0.909	1.123	1,100	0.926	0.815	0.163	1.010
45	-2.34	0.965	0.971	1,269	1.030	0.903	0.974	0.013	0.983
46*	-2.04	1.234	0.904	1,276	1.106	1,678	0.743	-0.006	1.047
47	-2.36	1.076	0.908	0.790	1,101	0.929	0.920	0.023	1.043

Information :

* Banks indicated for manipulation in 2 consecutive years

** Banks indicated for manipulation in 3 consecutive years

Source: Data processed.

Table 3. Beneish M-Score 2020

No.	M-Score	IDSR	GMI	IAQ	ISG	EYELASH	ISGA	SYSTEM	ILEV
1	-2.30	1.061	1.064	1,799	0.940	0.690	1.091	-0.026	1.015
2**	0.60	1,520	1.217	5,680	0.822	0.261	2,315	0.229	0.993
3	-3.69	0.859	1,000	0.670	1,000	0.925	1.349	-0.183	1.072
4*	0.24	1,917	0.584	4,510	1,712	1,428	2,891	0.063	0.897
5	-2.89	1.037	1.104	0.994	0.905	0.862	1.131	-0.079	1.016
6*	12.89	0.876	1.316	39,522	0.760	0.792	1.378	0.013	1,000
7*	14.71	0.498	47,028	1.053	0.022	0.000	36.080	0.051	0.663
8	-2.63	0.930	0.976	1.076	1.025	0.806	0.933	-0.022	1.022
9*	-1.60	1,100	1.371	1,227	0.729	0.227	1,266	0.186	0.982
10	-1.87	1,213	1,463	0.970	0.684	0.545	1,477	0.128	0.981
11	-3.05	0.868	0.943	1.095	1.060	1,124	1.037	-0.111	0.982
12	-2.77	1.046	1.042	1.344	0.960	0.577	1,143	-0.080	1.025
13	-2.41	0.981	0.897	1.546	1,115	0.000	1,226	-0.005	1.006
14**	-0.23	1,288	0.844	1,423	1.185	0.813	0.919	0.346	0.632
15	-2.62	1.013	1.024	1.539	0.977	0.660	0.931	-0.069	1.023
16*	-2.17	1,191	1,224	1,169	0.817	0.907	1,171	0.031	0.973
17	-1.60	1.344	1,157	1,851	0.864	0.980	1.254	0.066	1.008
18	-2.81	1.014	1.094	1.059	0.914	1,330	0.896	-0.081	1.023

19*	-1.12	0.848	1,488	1,731	0.672	0.680	1,458	0.277	0.799
20	-3.39	0.988	1,128	1.076	0.886	0.962	1.082	-0.184	1.032
21	-4.04	0.922	0.822	0.519	1.217	2,528	0.981	-0.267	1,957
22	-2.32	1.034	0.958	1.114	1.044	0.803	1.049	0.022	1.014
23	-2.11	1.027	0.959	1,627	1.043	0.769	0.959	0.021	1,000
24*	-1.38	0.923	1.136	1,443	0.880	1.334	1.027	0.211	0.974
25	-2.21	1,191	0.944	2,158	1.059	0.981	1.037	-0.079	1.042
26	-2.70	0.981	0.957	1.317	1.045	0.539	1.024	-0.059	1.031
27	-2.27	0.908	1.030	2,665	0.971	1.026	0.964	-0.080	1.003
28	-2.95	0.907	1.048	1,209	0.955	1.008	0.992	-0.095	1.014
29	-2.29	1.026	1,207	0.916	0.829	1,169	1.002	0.049	1,001
30	-2.49	1.038	0.985	0.761	1.015	1.356	0.926	-0.002	0.967
31	0.32	1,207	0.199	0.315	5.016	1,203	1,489	-0.042	1.031
32	-2.95	0.902	1.018	0.760	0.982	0.671	1.098	-0.045	1.036
33	-2.51	1.174	1,248	0.771	0.801	0.849	0.946	-0.009	1.008
34	-2.74	1,100	1.163	1.317	0.860	1.015	1.092	-0.091	0.992
35	-2.45	1.099	1.104	1,120	0.906	0.873	0.983	-0.016	0.981
36	-2.38	1.037	1.242	1,432	0.805	1.133	1,148	-0.010	0.997
37	-1.91	1,202	0.919	0.838	1.088	0.772	0.977	0.093	0.990
38	-3.18	1.042	1,171	1,153	0.854	1,454	1.010	-0.167	1.074
39	-4.18	0.806	0.852	0.709	1.174	1,496	0.889	-0.330	1.031
40*	2.48	1.343	1,721	12,863	0.581	1.013	1,770	-0.004	0.991
41	-2.06	1.074	1.013	0.766	0.987	0.748	1.049	0.098	0.894
42	-2.35	0.844	0.926	1,214	1.079	0.771	0.799	0.032	0.990
43	-2.57	1.037	1.081	1.073	0.925	1.016	1,307	-0.015	1.010
44*	-1.73	1,080	1.037	1,975	0.964	1.089	1.057	0.065	1,001
45	-3.12	0.920	1.095	1.051	0.913	0.900	1.073	-0.114	0.991
46*	-1.77	0.947	0.927	1.089	1.079	0.919	1.054	0.142	0.854
47	-1.67	1.125	1.006	1.025	0.994	1.325	1.064	0.143	0.996

Information :

* Banks indicated for manipulation in 2 consecutive years

** Banks indicated for manipulation in 3 consecutive years

Source: Data processed.

Table 4. Beneish M-Score 2021

No.	M-Score	IDSR	GMI	IAQ	ISG	EYELASH	ISGA	SYSTEM	ILEV
1	-2.42	0.617	1.173	3,747	0.853	0.946	1,683	-0.113	1.009
2**	-1.74	0.991	0.815	1.351	1,227	1.010	0.667	0.095	0.979
3	-2.49	1,282	0.929	1,625	1.077	1.011	1,540	-0.093	1.079
4*	3.82	0.876	0.138	0.497	7,243	0.276	0.631	0.308	0.739
5	-2.53	1,189	0.990	0.861	1.010	1.008	0.975	-0.039	0.959
6*	-3.77	0.491	1,359	0.992	0.736	1.008	1,548	-0.145	0.985
7*	-20.23	0.000	-0.641	0.489	0.035	0.001	67,216	-0.469	4,669
8	-2.82	1.073	0.997	0.888	1.003	1.060	0.997	-0.077	1.008
9*	-1.01	0.799	0.459	0.734	2,179	1.397	0.411	0.172	0.831
10	-3.27	1,205	1,259	0.846	0.795	1.008	1.312	-0.177	0.953
11	-2.61	1.027	0.927	1.016	1.078	1.048	0.901	-0.043	1.021
12	-2.70	1,102	1.123	1.316	0.891	1,239	1.086	-0.090	0.995
13	-2.34	0.951	0.946	1.163	1.057	1,885	1.048	0.000	0.963
14**	-0.37	0.787	0.766	0.977	1.305	0.694	1.048	0.441	0.547
15	-2.62	1.026	0.974	0.833	1.027	0.943	1.050	-0.019	0.998
16*	-3.35	0.766	0.654	1,101	1,530	1.031	3,571	-0.120	0.939
17	-2.70	1.358	0.987	0.732	1.013	0.997	1.111	-0.093	0.961
18	-2.81	1.073	1.132	0.958	0.884	1,110	1.184	-0.070	0.978
19*	-3.20	1.095	1,200	0.744	0.834	1.075	1,712	-0.112	1.056

20	-3.79	1.053	1,119	0.797	0.894	1.050	1,120	-0.265	0.951
21	-2.79	0.806	0.639	2.183	1,565	0.565	0.750	-0.225	0.560
22	-2.72	1.027	0.955	1.053	1.047	0.893	1.032	-0.061	1.003
23	-3.89	0.935	0.915	0.651	1.093	0.878	1,443	-0.245	1.013
24*	-2.76	1,186	1.416	0.941	0.706	0.719	1,672	-0.050	0.996
25	-3.18	0.834	0.700	1.142	1,429	0.911	0.775	-0.179	1.038
26	-2.68	1.067	0.978	0.983	1.022	1,107	1.012	-0.058	1.005
27	-2.81	1.055	1.222	1,468	0.818	1.043	1.232	-0.109	0.925
28	-2.80	1.136	1.098	1.018	0.911	0.856	1.118	-0.082	1.008
29	-2.18	1.154	1,195	1,257	0.837	1.016	1.091	0.025	0.985
30	-3.20	1.058	1.002	0.822	0.998	0.830	0.972	-0.143	1.026
31	-2.76	1.038	0.951	0.863	1.052	1.104	1.090	-0.059	0.996
32	-3.52	0.860	0.995	0.464	1.005	0.954	1.014	-0.146	0.995
33	-2.58	1.164	1,295	0.766	0.772	0.884	1,127	-0.033	0.734
34	-2.69	1,102	1,112	0.972	0.899	1.029	1,113	-0.052	0.990
35	-3.07	0.971	0.864	0.862	1,158	1,189	0.884	-0.134	0.969
36	-2.03	1,153	1.111	0.919	0.900	0.810	1.047	0.085	0.978
37	-2.54	1.065	0.834	0.783	1,199	0.820	1.031	-0.018	1.014
38	-2.13	0.993	1,100	0.865	0.909	0.882	1.387	0.110	0.961
39	-2.48	0.980	0.944	1,194	1.060	1.092	1.006	-0.022	0.969
40*	-2.77	1.058	0.820	0.591	1,219	0.980	0.896	-0.060	1.026
41	-2.62	0.952	1.028	0.978	0.973	0.949	0.882	-0.018	1.008
42	-2.56	1,243	0.992	0.824	1.008	1.089	0.932	-0.052	1.022
43	-2.85	1,113	1.079	1.160	0.927	0.973	1,120	-0.104	0.993
44*	-2.73	1.092	0.828	0.901	1,208	2,758	0.830	-0.127	1.029
45	-2.46	1.081	1,128	1.096	0.886	0.959	1.172	-0.006	0.975
46*	-3.17	0.926	0.980	0.748	1.021	1.089	0.976	-0.104	1.160
47	-2.70	1,112	0.984	0.842	1.017	0.896	1.017	-0.055	0.975

Information :
* Banks indicated for manipulation in 2 consecutive years
** Banks indicated for manipulation in 3 consecutive years
Source: Data processed.

The first discussion will focus on the Beneish Index of the bank under study. In the 2019-2021 period, there are 42 banks that are indicated to manipulate financial statements. In 2020 there were 20 banks indicated to manipulate financial statements. Meanwhile, in 2019 and 2021, there are 15 and 7 banks, respectively, which are indicated to manipulate financial statements. During the 2019-2021 period, there were 2 banks that were consistently indicated to manipulate financial statements for 3 consecutive years, namely Bank 2 and Bank 14.

Based on IDSR calculations during the 2019-2021 period, there are 3 banks that are indicated to be manipulating related to credit accounts and interest income. It can be concluded that in the banking sector there is not too much manipulation related to credit and interest income. This fact is in line with the accounting record system in the banking sector related to interest income, which is mostly done automatically by banking software.

Based on GMI's calculations during the 2019-2021 period, there were 20 banks indicated to be manipulating related to interest expense and interest income. If it is related to the previous information that for accounts related to interest in banking which in general has been done automatically by banking software, then in this GMI calculation it can be concluded that in general there are external factors that cause the GMI ratio to move uncertainly. During 2019-2021 Bank Indonesia is still consistent in setting a fairly low interest rate. Researchers see a phenomenon in the financial statements of the banks

studied that there is a general decline in interest income in 2020, while a general decline in interest expense will only be reflected in 2021.

Based on IAQ calculations during the 2019-2021 period, there were 40 banks indicated to manipulate their assets. During the last few years, even before the pandemic, banking credit growth in Indonesia was around 5-10%. In this study, researchers saw that during the pandemic, banks did not experience significant credit growth and preferred to place their funds in bonds and government securities. This can be understood as part of risk management where banks are certainly more focused on maintaining their existing loan portfolio well rather than pursuing high loan growth. In line with the OJK stimulus which allows banks to restructure loans for debtors whose business activities are affected by COVID-19.

Based on ISG calculations during the 2019-2021 period, there are 5 banks indicated to manipulate related to the growth of interest income. This fact is in line with previous information in the IDSR section related to the recognition of interest income in the banking sector which is carried out automatically with the core banking system. It will be quite difficult for banks to do manual manipulation which will be easily detected.

Based on IDEP's calculations during the 2019-2021 period, there were 37 banks indicated to manipulate related to depreciation expense and fixed assets. In general, fixed assets are not the largest assets in the Bank's financial statements. Based on the observations of the company's financial statements, the researcher found that there was an impact from the application of PSAK 73 where the company recognized the right of use assets and also the depreciation.

Based on ISGA's calculations during the 2019-2021 period, there were 76 banks indicated for manipulation related to general and administrative expenses. In general, the general and administrative burdens did not change significantly during the pandemic. Based on the observations of the financial statements, the researchers found that these banks experienced an increase in assets either because of the merger or the addition of new capital. Changes or additions of shareholders will certainly have an impact on the company's strategy. This is in line with the policy of increasing authorized capital implemented by OJK which encourages banks to merge businesses or increase their capital in accordance with applicable regulations.

Based on ILEV calculations during the 2019-2021 period, there are 4 banks indicated to manipulate their liabilities. Researchers found no significant changes in bank liabilities during the study period. As with banks in general, the majority of liabilities are dominated by third-party fund accounts whose amounts are very significant, so there are not too many indications of manipulation based on the ILEV measurement.

Based on TATA calculations during the 2019-2021 period, there were 39 banks indicated to manipulate accruals. Based on research data for 2019-2021 the number of banks indicated to manipulate with accruals are 17, 15 and 7. This shows that accruals are still one of the posts that can be used by banks to manipulate. Another fact is that there is a significant decline in 2021 compared to previous years. The researcher sees that in 2021 operationally the majority of banks can reduce their interest expense in line with the explanation on the GMI point so that banks have more funds to immediately charge their burdens rather than holding them in the accrual post.

The second discussion will focus on the Beneish M-Score on banks that are indicated to have manipulated for more than one year. The researcher believes that there is consistency in these banks so that they can be strengthened by facts and other external information related to the current conditions of these banks.

Bank 2 was acquired by a merger in 2019 and is currently majority owned by foreign investors. Based on historical data since 2018-2020, banks have consistently suffered substantial losses and in 2021 the bank has succeeded in making profits. Due to this fact, there is significant pressure from new shareholders for management to immediately obtain profits and improve financial performance. This pressure can encourage management to manipulate its financial statements. Based on the benefit index, Bank 2 has consistently in 3 years has indications related to IAQ and TATA. The other indexes that also indicated manipulation but were not consistent in 3 years were IDSR, GMI, IDEP and ISGA. From this data, the researcher argues that banks are indicated to manipulate accounts related to the index, such as general and administrative assets and expenses. Based on other external information, the researcher found that Bank 2 will carry out a corporate action by issuing shares in semester 2 of 2022. This fact certainly encourages the Bank to manipulate so that its financial performance can look good to gain the trust of potential investors.

Bank 14 based on information in the annual report did not find any factors that encourage manipulation. Based on the benefit index, Bank 14 has consistently in 3 years has indications related to TATA. The other indexes that also indicated manipulation but were not consistent in 3 years were IAQ, ISGA, IDEP. From these data, the researcher argues that banks are indicated to manipulate accounts related to the index, such as general and administrative assets and expenses. Based on other external information it was found that the majority shareholder of Bank 14 will increase their shareholding up to 75%. This fact can really encourage Bank 14 to manipulate in order to gain the trust of shareholders so that they can confidently increase their share ownership.

Banks 4, 9 and 16 are consistently indicated to manipulate in 2 consecutive years. Based on other external information, the researchers found similar facts that the three banks are digital banks that have recently been acquired by new owners. In general, these banks have high customer acquisition costs by offering various financial products with high yields or with various promos together with other affiliated companies. For example, in an external source, it was stated that one of these banks offered a deposit interest that was high enough to exceed the limit guaranteed by the Deposit Insurance Corporation (LPS). Based on these facts, it is enough to become a strong basis for these banks to manipulate so that shareholders can get capital gains from what they have invested in the high cost of customer acquisition. This is reinforced by the fact that the stock prices of these digital banks on the IDX are not commensurate with their financial performance.

Banks 6 and 44 are indicated for 2 consecutive years of manipulating financial statements related to the GMI, IAQ, ISGA, IDEP and TATA indices. Based on Bank 6's financial report, there was a significant decline in credit due to the significant repayment of corporate loans. This fact is certainly in line with indications of manipulation on GMI and IAQ because they are directly related to credit assets and interest income. Based on other external facts, it was found that Banks 6 and 44 have plans to take corporate actions to issue shares. Similar to the previous explanation, banks have the potential to manipulate so that their financial performance can look good to gain the trust of potential investors.

Bank 7 is indicated to manipulate financial statements in 2 consecutive years with indications of manipulation in the GMI and TATA indices. Based on information in Bank 7's annual report, it was found that until 2021 the bank has a policy not to expand credit. This is also reflected in the financial statements where bank credit assets continue to decline and even run out in 2021. Researchers found the fact that Bank 7 was recently acquired by a new shareholder so that a significant change in business plans is very likely to occur. Significant changes that occur in the business in its disclosure in the financial statements can be an indication of manipulation as in the case of Banks 7.

Bank 19 indicated manipulation in 2 consecutive years with indications of manipulation in the IAQ, GMI and TATA indices. Based on other external data searches, the researcher found that currently there are corruption cases that are currently ongoing until the investigation stage at the High Prosecutor's Office involves other state agencies. From other information, it was also found that Bank 19 had problems with non-performing loans from 2017 to 2021. This is in line with indications of manipulation in credit assets and interest income.

Bank 24 indicated manipulation in 2 consecutive years with indications of manipulation in the IAQ, IDEP, ISGA and TATA indexes. Based on other external information, it was found that Bank 24 is currently dealing with a legal case related to its debtors who failed to pay. Based on the results of research indicating indications of manipulation carried out in 2019 and 2020. In 2021, it was found that there was an increase in the allowance for impairment losses which caused Bank 24 to get a significant loss of 1.5 trillion rupiah in 2021. The researcher believes that Bank 24 was not careful enough. careful in the process of granting credit to debtors in the previous years and the impact on the performance of the following years.

Bank 40 indicated manipulation in 2 consecutive years with indications of manipulation in the GMI, IAQ, ISGA and TATA indexes. Bank 40 did not find any relevant external information. Based on the 2021 and 2020 financial statements, there are revenues obtained from the reversal of the allowance for impairment losses of 990 billion rupiah and 1.3 trillion rupiah, respectively. In the asset position, there is an increase in foreclosed assets as a result of non-performing loans. From these facts, there are indications that the Bank has transferred its non-performing loans with very large reserves for losses into the assets taken over, causing a reversal of the allowance for impairment losses in the statement of comprehensive income.

Bank 46 indicated manipulation in 2 consecutive years with indications of manipulation in the IAQ, IDEP, ISGA and TATA indexes. Based on external information, it was found that in 2021 Bank 46 wrote off the credit book of 1 trillion rupiah which resulted in a net loss of 800 billion rupiah. This fact is in line with the results of research where Bank 46 is indicated to manipulate in 2020 and 2019. In line with the previous explanation, in the banking sector inadvertent lending can result in very significant losses in the years ahead.

IV. Conclusion

Based on the research conducted, it can be concluded that the Beneish M-Score can be used to predict whether there is manipulation or not in a banking company. This is supported by evidence from 12 banks which are consistently indicated to manipulate for more than one year supported by external facts such as the existence of a corporate action plan for the issuance of shares, a significant change in the company's business plan by new shareholders, lack of prudence in lending. and corrupt practices. This model can be an indicator or a quick way for investors to make an assessment.

This research can also map out the character and types of banks with indications of the manipulations they do. From the results, banks indicated to manipulate can be divided into 2 major groups. The first group is banks with a size that is not too large and usually newly acquired by new owners. In the first group, indications of manipulation are the bank's strategy of expanding customers with high acquisition costs, either by promotions through shareholder affiliate companies or by high interest rates on savings and time deposits. Another characteristic for this first group is the presence of significant stock price

fluctuations which are less reflected in terms of financial performance. The second group is banks that are not included in the first group. In this second group, the indications for manipulation are more varied depending on the needs of the bank itself. Most in this second group want good credit growth and interest income and stable financial performance. Usually, in this second group, non-performing loans are often found which ultimately erode bank profits in the future.

This study uses the annual report data of each bank which allows for manipulation of information that is not listed or detected by management, so this study cannot explain in detail the actual occurrence of any form of manipulation in the Beneish index. The interpretation of the findings in this study should be carried out with caution because this model does not have 100% predictive accuracy.

Further research can further explore the indications of manipulation described in this study along with other external facts. One of them is the influence of banking regulations and new accounting standards in the banking sector. For example, one of the biggest assets in a bank that is also part of the measurement in the Beneish index is credit which cannot be separated from allowance for impairment losses. Further research can examine whether the application of new accounting standards and OJK regulations can encourage banks to commit fraud in them.

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