

# Detection of Financial Statement Fraud on Property and Real Estate Companies Listed on IDX

Gresia L Hasibuan<sup>1</sup>, Iskandar Muda<sup>2</sup>, Keulana Erwin<sup>3</sup>

<sup>1,2,3</sup>Department of Accounting, Faculty of Economics and Business Universitas Sumatera Utara, Indonesia

Corresponding Author: Gresia L Hasibuan

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## ABSTRACT

The purpose of this study aims to detect financial statement fraud in property and real estate companies listed on the Indonesia Stock Exchange from 2015 to 2020. The type of data in this study is secondary data. The sampling method used is purposive sampling with a total sample of 43 companies. The data analysis technique uses the Beneish Model which consists of the Beneish Ratio Index and the Beneish M-Score. The results showed that there were 21 companies indicated as manipulators in 2016, 26 companies indicated as manipulators in 2017, 21 companies indicated as manipulators in 2018, 17 companies indicated as manipulators in 2019, and 14 companies indicated as manipulators in 2020. There were 22 companies indicated as non-manipulators in 2016, 17 companies indicated as non-manipulators in 2017, 22 companies indicated as non-manipulators in 2018, 26 companies indicated as non-manipulators in 2019, and 29 companies indicated as non-manipulators in 2020. There are no companies indicated as gray companies. The results also show that property and real estate companies listed on the Indonesia Stock Exchange experience earning manipulation, and the growth rate of financial statement fraud has decreased from 2016 to 2020.

**Keywords:** financial statement fraud, beneish ratio index, beneish m-score, earning manipulation.

## 1. INTRODUCTION

Financial statement fraud is a familiar case in the business world. Fraudulent financial statements result in financial statements

being unreasonable in their presentation. Many cases of financial statement fraud have occurred to date, such as Enron Corporation, WorldCom, Tyco International, PT. Kimia Farma Tbk., PT. Hanson International Tbk., PT. Garuda Indonesia (Persero) Tbk., and many more. If there is no prevention and detection, then fraud will always occur (Yesiariani & Rahayu, 2017). One of the reasons for the occurrence of fraud is due to weak internal control (Hamdani & Albar, 2016), therefore an internal auditor is needed who has adequate knowledge of internal control and its various aspects, so that the auditor can provide input regarding an effective control system to the company's stakeholders (Indonesian Bankers Association, 2019).

The increase in fraudulent financial reporting in public companies has increased public concern, such as investors, auditors, creditors, and other stakeholders (Razali & Arshad, 2014). In addition, fraudulent financial reporting can reduce public confidence in the reliability and accuracy of financial reporting to assess the company in the future and make decisions (Bhavani & Amposah, 2017). This problem can also form a wrong judgment by the public and can eliminate public trust in auditors (Idawati, 2020).

The number of accounting scandals that occur is an important reason to analyze financial statements to minimize fraud so that it can be detected more quickly before causing greater losses. All sectors are very

likely to commit fraudulent financial statements. One of them is the property and real estate sector.

Early detection of fraud will protect the company from bankruptcy. In line with statement from ACFE, fraud detection is very important to protect the organization from potential damage. The longer the company detects fraud, the greater the financial losses received by the company. One way that can be used to detect fraudulent acts in financial statements is to use the Beneish M-Score (Beneish Model) which was popularized by Messod D. Benesih. This model will categorize companies indicated as manipulators, non-manipulators, and grey companies. This study will show whether property and real estate companies listed on the Indonesia Stock Exchange are indicated as manipulators, non-manipulators, and grey company.

Research using the Beneish model has been carried out by several researchers. Research Halilbegovic et al. (2020) state that the Beneish model can be applied in the Federation of Bosnia and Herzegovina and helps effectively in detecting fraud in financial reports. Mihalcea's research (2020) states that 67% of the companies analyzed manipulate at least half of the annual financial reports, and from 19% companies manipulate more than 75% of the annual financial reports. Research Mollah & Sakib (2020) states that Bangladeshi pharmaceutical companies are involved in revenue manipulation and they do it continuously. Gyamfi's research (2020) states that an average of 28.4% of small companies in Ghana were involved in profit manipulation during the 2011-2016 period compared to large companies, namely 25.4%. Research by Svabova et al. (2020) stated that 32.7% of companies in Slovakia manipulated, 38.4% did not manipulate financial statements. Parvin's research (2020) stated that of all the manufacturing companies in Bangladesh studied, there were 39% of companies that manipulated, including pharmaceutical, food, cement,

ceramics, textile and clothing, printing, hemp, fuel, and others.

## 2. LITERATURE REVIEW

### 2.1 Fraud

According to Dewi & Apandi (2013), fraud is irregularities, mistakes (error) and irregularities in financial matters. And according to Karyono (2013), fraud is an irregularity and an illegal act, which is carried out intentionally for a specific purpose such as deceiving other people, which is carried out by people from within and outside the company.

Financial fraud often occurs in the absence of effective and reliable prevention tools to help us distinguish between them, which can also provide a warning against fraud (Lu & Zhao, 2020). Understanding the methods fraud perpetrators use to cover up their crimes can help organizations design better prevention mechanisms and detect the warning signs of fraud. The usual methods used by perpetrators of fraud were 40% creating fake physical documents, 36% changing physical documents, 27% changing electronic documents or files, and 26% creating fake electronic documents or files (ACFE, 2020).

Detection is an important concept in fraud investigations because the speed at which fraud is detected, as well as the manner in which it is detected, can have a significant impact on the size of a fraud. It is also key to fraud prevention because companies can take steps to improve how they detect fraud, which can increase people's perceptions that fraud will be detected and can help prevent future wrongdoing (ACFE, 2020).

According to the Association of Certified Fraud Examiners (ACFE) there are three classifications of fraud, namely asset misuse, corruption, and financial statement fraud.

According to auditing standards, there are three conditions that can lead to fraud (Hery, 2016). These three conditions are incentives or pressure, opportunities, and behavior or justification for action.

## 2.2 Financial Statements

Financial reports have the capability to present a clear picture of the company's financial health, which results in informed company decisions (Fraser & Ormiston, 2018).

Financial reports are the end product of a series of processes for recording and summarizing business transaction data. An accountant is expected to be able to organize all accounting data to produce financial reports, and must even be able to interpret and analyze the financial reports he makes (Hery, 2019). The information in the financial statements is a reflection of the company and must meet the existing information criteria, so that fraud does not occur in financial reports where the information is inappropriate (Aulia & Afiah, 2020).

## 2.3 Fraudulent Financial Reporting

Fraudulent financial reporting is reporting that deliberately exaggerates and/or reduces balances in financial statements (ICAEW, 2020). ACFE found that while fraudulent financial reporting is the least common form of fraud, when it occurs, it results in significant losses for companies.

Misleading financial reporting is a misrepresentation or omission of an amount or disclosure intentionally with the aim of deceiving users of financial statements (Hery, 2016). Most cases of fraudulent financial reporting relate to an attempt to understate income, either by overstating assets and income, or by omitting unearned income (liabilities) and replacing them with revenue. In several cases, the reverse condition has also been encountered, where companies deliberately understate income with the aim of minimizing profits and income taxes. According to Hery (2016) fraudulent financial reporting is usually done in the following ways:

1. Manipulation, falsification, or alteration of accounting records or supporting documents which form the basis for preparing financial reports.

2. Disclosure errors, or intentional omissions of events, transactions, or other significant information in the financial statements.
3. Deliberate errors in the application of accounting principles, particularly those relating to amounts, classification, presentation or disclosure.

## 2.4 Beneish M-Score

The Beneish M-Score model was popularized by Messod D. Beneish. Beneish conducted research in 1999 entitled "The Detection of Earnings Manipulation" (Beneish, 1999). Then Beneish conducted further research in 2012 with the title "Fraud Detection and Expected Returns". Beneish M-Score is a method used to help reveal companies that are likely to commit fraud of income recorded in financial statements (Beneish et al., 2012). The formula for the M-Score is as follows:

$$\text{M-Score} = -4,84 + 0,92 \cdot \text{DSRI} + 0,528 \cdot \text{GMI} + 0,404 \cdot \text{AQI} + 0,892 \cdot \text{SGI} + 0,115 \cdot \text{DEPI} - 0,172 \cdot \text{SGAI} + 4,679 \cdot \text{ACCRUALS} - 0,327 \cdot \text{LVGI}$$

M-Score cut-off values are as follows:

M-Score < -2,22 indicates non-manipulator

M-Score > -2,22 indicates manipulator

M-Score = -2,22 indicates grey company

In the M-Score there are several ratios called the Beneish Ratio Index. Beneish Ratio Index is a technique used to analyze financial statements to detect whether companies commit fraudulent financial statements or not (Christy & Stephanus, 2018). Research conducted by Beneish uses the ratios contained in the financial statements. The ratios used by Beneish are 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 Expenses Index (SGAI), Leverage Index (LVGI), and Total Accrual to Total Assets Index (TATA). In 2012 Beneish made slight changes to the M-Score model by replacing TATA with ACCRUALS. According to Kamal et al.,

(2016), this is done to take advantage of the information available in the cash flow statement rather than the statement of financial position alone. And these changes were made to be consistent with the literature on accruals.

### 1. Days Sales in Receivable Index (DSRI)

DSRI is the ratio of trade receivables to sales generated by the company in a year with the previous year. A high DSRI value indicates an indication of revenue inflation (Mollah & Sakib, 2020).

$$\frac{\text{Receivables}_{(t)} / \text{Sales}_{(t)}}{\text{Receivables}_{(t-1)} / \text{Sales}_{(t-1)}}$$

### 2. Gross Margin Index (GMI)

GMI is the ratio of gross profit generated by the company in the previous year with the

$$\frac{(1 - \text{Current Assets}_{(t)} + \text{Plant, Property, and Equipment}_{(t)}) / \text{Total Asset}_{(t)}}{(1 - \text{Current Assets}_{(t-1)} + \text{Plant, Property, and Equipment}_{(t-1)}) / \text{Total Asset}_{(t-1)}}$$

### 4. Sales Growth Index (SGI)

SGI is a comparison between sales of a year with the previous year. The SGI value that passes the cut-off indicates an increase in sales from the previous year and tends to try to maintain this condition (Apriani & Nuzula, 2019).

$$\frac{\text{Sales}_{(t)}}{\text{Sales}_{(t-1)}}$$

$$\frac{\text{Depreciation}_{(t-1)} / (\text{Depreciation}_{(t-1)} + \text{Plant, Property, and Equipment}_{(t-1)})}{\text{Depreciation}_{(t)} / (\text{Depreciation}_{(t)} + \text{Plant, Property, and Equipment}_{(t)})}$$

### 6. Sales General and Administrative Expenses Index (SGAI)

SGAI is the comparison of selling, general, and administrative expenses to sales in a

current year. If GMI passes the cut-off, it indicates a decrease in gross profit, which is a negative signal for the company's prospects in the future. Beneish assesses that companies with poor prospects have more potential to manipulate earnings (Apriani & Nuzula, 2019).

$$\frac{(\text{Sales}_{(t-1)} - \text{Cost of goods sold}_{(t-1)}) / \text{Sales}_{(t-1)}}{(\text{Sales}_{(t)} - \text{Cost of goods sold}_{(t)}) / \text{Sales}_{(t)}}$$

### 3. Asset Quality Index (AQI)

AQI is the ratio of current assets and fixed assets to the company's total assets in a year with previous year. AQI value that pass the cut-off indicate the company is deferring expenses, which will make higher profits (Apriani & Nuzula, 2019).

### 5. Depreciation Index (DEPI)

DEPI is the comparison of the depreciation of the previous year with the current year. The DEPI value that passes the cut-off indicates the company is making efforts to increase the life of its assets, or it can also indicate the company's efforts to implement new methods to increase revenue (Apriani & Nuzula, 2019).

year with the previous year. If the SGAI value passes the cut-off, it indicates an increase in administrative and marketing costs (Apriani & Nuzula, 2019).

$$\frac{\text{Sales, general and administrative expense}_{(t)} / \text{Sales}_{(t)}}{\text{Sales, general and administrative expense}_{(t-1)} / \text{Sales}_{(t-1)}}$$

### 7. Leverage Index (LVGI)

LVGI is the ratio of total debt to total assets in a year with the previous year. LVGI values past the cut-off indicate the need to pay debts are high (Apriani & Nuzula, 2019).

$$\frac{\text{Long Term Debt}_{(t)} + \text{Current liabilities}_{(t)} / \text{Total Asset}_{(t)}}{\text{Long Term Debt}_{(t-1)} + \text{Current Liabilities}_{(t-1)} / \text{Total Asset}_{(t-1)}}$$

### 8. ACCRUALS

Accruals is the difference between net income and cash flows from operating activities divided by total assets. The greater the accrual value (other than cash), the possibility to manipulate earnings is greater (Annisa & Gozali, 2020).

$$\frac{\text{Income before extraordinary item} - \text{Operating cash flow}}{\text{Total Assets}}$$

The cut-off for each variable based on Beneish (1999) is:

Table 1. Cut-off

Variables	Non-Manipulator	Manipulator
DSRI	< 1,031	> 1,465
GMI	< 1,014	> 1,193
AQI	< 1,039	> 1,254
SGI	< 1,134	> 1,607
DEPI	< 1,001	> 1,077
SGAI	< 1,054	> 1,041
LVGI	< 1,037	> 1,111
TATA	< 0,018	> 0,031

## 2.5 Framework

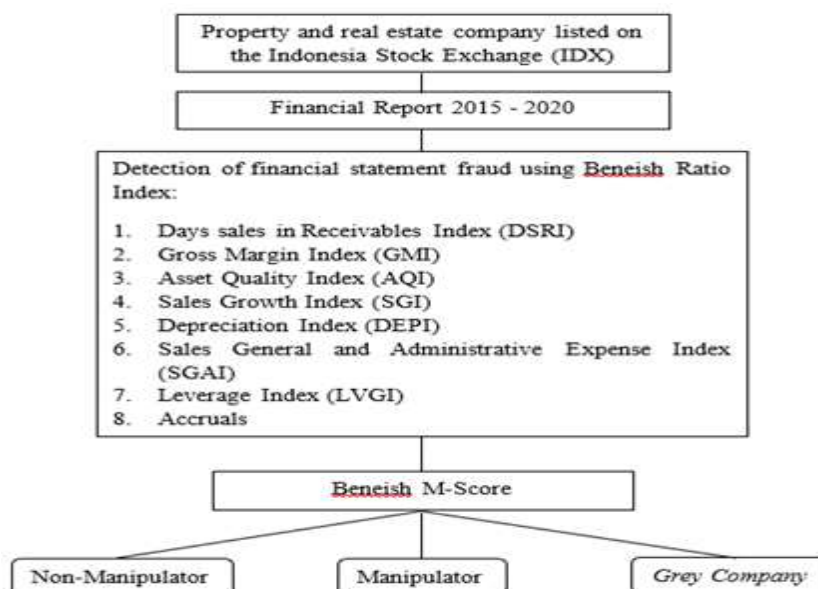


Figure 1. Framework

H1: There are no indications of earnings manipulation for companies in the property and real estate sector in Indonesia.

H2: There are indications of earnings manipulation for companies in the property and real estate sector in Indonesia.

### 3. RESEARCH METHOD

#### 3.1 Type of Research

This type of research is descriptive research, the research on certain phenomena or populations obtained by researchers from subjects such as individuals, organizations, industries, or other perspectives (Erlina: 20, 2011).

The object used in this study is the annual financial statements of property and real estate companies listed on the Indonesia Stock Exchange which consist of statements of financial position, income statements, and cash flow for the period 2015 to 2020.

#### 3.2 Population and Sample

In this study, the population used is the financial statements of property and real estate companies listed on the Indonesia Stock Exchange in 2015-2020, amounting to 62 companies. The sampling technique used purposive sampling so that the number of samples obtained was 43 companies.

#### 3.3 Data Analysis Technique

The data analysis technique used in this study is descriptive quantitative, which is a data analysis technique by analyzing using numbers from financial statements, such as statements of financial position, income statements, and cash flow, which are then used as a basis for decision making. The analysis technique used in this research are as follows:

1. Calculating the M-Score ratios contained in the sample of this study.
2. The data or results of the calculation of the M-Score ratios are then analyzed using the formula found by Beneish.  

$$M\text{-Score} = -4,84 + 0,92 \cdot DSRI + 0,528 \cdot GMI + 0,404 \cdot AQI + 0,892 \cdot SGI + 0,115 \cdot DEPI - 0,172 \cdot SGAI + 4,679 \cdot ACCRUALS - 0,327 \cdot LVGI$$
3. Classify each research sample based on the following cut-off values:
  - a. M-Score < -2,22 indicates non-manipulator
  - b. M-Score > -2,22 indicates manipulator
  - c. M-Score = -2,22 indicates grey company

4. Calculate the percentage of companies identified as manipulators, non-manipulators, grey companies, and describe them.
5. Make a graph of the growth of fraudulent financial statements for 5 years.

## 4. RESULTS AND DISCUSSION

### 4.1 Result

#### 4.1.1 Beneish Ratio Index

Table 2. The result of DSRI

Perusahaan	Tahun				
	2016	2017	2018	2019	2020
APLN	1,073	1,046	1,659	1,363	0,535
ASRI	1,335	0,811	0,989	0,514	1,825
BAPA	30,743	0,009	3,221	28,096	2,826
BCIP	0,722	2,047	1,202	1,110	2,400
BEST	1,848	1,219	0,433	3,806	0,379
BIKA	0,792	2,883	0,348	0,968	3,553
BIPP	1,496	1,200	0,973	0,434	1,158
BKDP	0,794	2,105	1,700	0,554	1,723
BKSL	0,761	0,944	1,148	1,031	0,553
BSDE	2,971	0,763	1,273	0,928	0,467
CTRA	0,645	2,455	1,192	1,051	0,853
DART	0,827	2,075	0,936	0,789	1,372
DILD	0,724	1,026	2,267	0,785	0,356
DMAS	1,487	0,049	2,142	5,152	0,036
DUTI	1,832	1,369	1,074	1,436	0,177
ELTY	0,657	1,287	1,052	0,972	1,331
EMDE	1,373	0,981	1,956	0,876	0,397
FMII	0,704	0,262	0,410	0,306	1,288
GAMA	1,378	1,096	0,153	3,739	0,934
GMTD	0,241	7,439	1,561	0,032	2,095
GPRA	0,955	1,095	0,890	1,338	0,181
GWSA	0,626	1,049	0,465	0,542	1,221
JRPT	0,930	1,188	1,217	0,992	0,332
KIJA	1,890	0,604	1,851	0,987	0,452
LCGP	1,552	2,981	0,540	1,090	3,423
LPCK	1,213	1,378	0,809	1,179	0,073
LPKR	1,074	1,243	0,896	0,906	0,901
MDLN	1,701	0,268	3,006	0,124	2,065
MKPI	1,042	1,016	1,800	1,053	1,945
MMLP	0,037	2,691	4,209	7,118	0,197
MTLA	0,808	1,386	0,570	1,161	1,207
MTSM	3,034	0,966	0,746	5,741	0,643
NIRO	1,837	0,714	1,299	0,133	1,575
OMRE	2,558	3,080	1,591	1,157	3,254
PLIN	0,956	1,126	1,063	0,789	4,068
PPRO	1,640	1,197	1,504	0,517	0,887
PWON	0,752	1,856	0,826	1,727	0,462
RBMS	0,693	1,157	0,842	1,587	1,953
RDTX	0,968	0,246	0,891	0,788	3,229
RODA	0,950	0,373	3,201	0,358	0,000
SMDM	1,453	0,866	0,620	1,241	0,958
SMRA	3,757	1,220	0,648	0,610	1,476
TARA	0,354	3,545	2,307	1,974	0,218

Source: Research results, 2022 (Processed Data)

In the DSRI ratio, if the value is > 1.465 it indicates that there is an indication of

income inflation (Mollah & Sakib, 2020). There are not a few companies whose DSRI values exceed the cut-off value (indications of committing fraud). There were 33 companies out of a total of 43 companies that indicated fraud on the DSRI ratio. This indicates that the company uses accounts receivable as a loophole for fraud. With a large increase in accounts receivable as a percentage of sales may indicate excess receivables and sales during the year to increase profits.

company's prospects in the future. Beneish considers companies with poor prospects to have the potential to manipulate earnings (Apriani & Nuzula, 2019). A decrease in the percentage of gross margin will result in an index value greater than 1. There are 20 companies out of a total of 43 companies that are indicated to have committed fraud on the GMI ratio. This indicates that these companies experienced a decrease in gross profit which made it possible for companies to manipulate financial statements.

**Table 3. The Result of GMI**

Perusahaan	Tahun				
	2016	2017	2018	2019	2020
APLN	1,048	1,020	1,027	0,932	1,131
ASRI	1,369	0,889	0,987	0,973	1,497
BAPA	0,986	1,020	1,225	0,911	1,203
BCIP	0,879	0,871	1,130	1,104	1,032
BEST	0,950	1,039	0,998	1,078	1,267
BIKA	0,924	0,889	1,021	1,082	0,886
BIPP	0,950	1,614	1,116	0,893	1,107
BKDP	1,216	3,949	-0,705	3,806	0,032
BKSL	0,670	1,035	1,099	0,905	1,080
BSDE	1,041	0,979	1,023	1,003	1,039
CTRA	1,017	1,049	0,984	-0,002	1,111
DART	0,863	1,097	0,982	1,234	1,603
DILD	1,041	1,049	1,101	0,953	1,013
DMAS	1,128	0,922	1,088	1,002	0,911
DUTI	1,013	0,962	0,991	1,048	1,009
ELTY	1,401	0,778	1,200	1,011	1,244
EMDE	1,049	0,856	1,521	0,772	1,253
FMII	1,047	1,154	1,001	1,589	0,711
GAMA	0,752	1,127	0,892	0,855	1,333
GMTD	1,126	0,968	1,083	1,003	1,054
GPR	1,095	0,953	1,041	0,860	1,024
GWSA	0,970	1,058	1,964	0,534	1,475
JRPT	0,974	0,979	1,049	1,019	1,086
KIJA	1,043	1,117	0,873	1,162	0,880
LCGP	1,637	0,467	0,923	8,015	0,124
LPCK	1,131	1,107	0,744	1,509	1,050
LPKR	1,078	0,954	0,940	1,282	1,041
MDLN	0,871	1,071	1,187	0,866	1,195
MKPI	1,002	0,997	0,942	0,901	0,975
MMLP	1,008	0,990	0,987	1,001	0,995
MTLA	0,961	0,976	1,051	1,092	1,068
MTSM	1,679	0,781	0,501	1,076	1,868
NIRO	0,628	1,109	0,746	0,991	1,156
OMRE	1,007	1,193	1,175	1,025	1,840
PLIN	1,009	1,030	0,991	0,879	0,964
PPRO	1,092	1,136	0,925	0,954	1,720
PWON	1,014	0,973	1,022	1,015	1,155
RBMS	1,111	0,735	1,217	0,732	1,737
RDTX	0,994	1,060	0,961	1,029	0,956
RODA	1,313	0,935	1,146	0,999	1,042
SMDM	1,064	1,000	0,846	1,087	1,045
SMRA	1,074	1,058	0,940	1,009	1,053
TARA	0,860	0,902	0,849	1,100	0,842

Source: Research results, 2022 (Processed Data)

In the GMI ratio, if the value is > 1.193 it indicates that there is a decrease in gross profit, which is a negative signal for the

**Table 4. The Result of AQI**

Perusahaan	Tahun				
	2016	2017	2018	2019	2020
APLN	1,154	1,015	1,071	1,049	0,814
ASRI	0,992	1,049	1,046	0,952	1,016
BAPA	0,966	0,999	1,252	0,760	0,960
BCIP	1,006	1,008	1,085	0,736	1,027
BEST	0,940	1,004	0,868	1,059	0,958
BIKA	1,650	0,849	0,975	0,973	0,452
BIPP	1,085	1,002	0,609	0,921	0,957
BKDP	0,859	1,144	1,002	0,914	1,051
BKSL	1,038	1,077	1,041	1,010	1,036
BSDE	1,078	1,073	0,988	0,929	0,965
CTRA	0,988	1,001	1,032	0,940	0,990
DART	1,015	0,973	0,913	1,019	1,018
DILD	1,042	0,978	0,911	1,088	0,992
DMAS	1,167	0,998	0,997	0,897	0,930
DUTI	1,113	1,014	0,965	0,930	1,099
ELTY	0,764	1,076	1,581	0,894	1,053
EMDE	0,862	0,731	0,899	0,985	0,837
FMII	1,616	1,266	0,917	1,169	1,001
GAMA	0,994	0,956	1,020	0,988	0,983
GMTD	1,027	1,025	1,031	0,944	0,900
GPR	0,787	1,464	0,789	0,925	1,529
GWSA	1,006	0,993	0,959	0,985	1,006
JRPT	1,049	0,986	0,987	1,039	0,972
KIJA	0,973	1,200	1,062	1,074	1,094
LCGP	2,696	0,942	0,881	0,931	0,996
LPCK	0,854	1,030	1,721	1,550	0,623
LPKR	0,948	1,224	1,030	1,566	0,849
MDLN	0,973	1,067	0,993	1,063	1,020
MKPI	1,037	1,008	0,914	1,079	1,005
MMLP	1,135	0,977	1,008	0,981	0,828
MTLA	1,015	1,082	1,047	0,925	1,020
MTSM	1,108	1,066	1,071	0,444	7,036
NIRO	0,992	1,002	0,853	1,254	1,209
OMRE	0,987	1,001	1,000	1,000	0,999
PLIN	1,157	0,968	0,907	1,579	0,966
PPRO	2,189	1,484	0,845	1,034	0,970
PWON	0,980	0,913	0,973	0,998	1,064
RBMS	1,174	0,210	2,500	1,329	0,823
RDTX	0,943	9,303	1,037	1,141	1,003
RODA	1,051	0,762	1,211	1,002	0,965
SMDM	1,099	0,986	1,000	1,002	1,004
SMRA	0,951	0,993	0,958	0,995	0,962
TARA	1,068	0,968	1,108	1,009	1,030

Source: Research results, 2022 (Processed Data)

In the AQI ratio, if the value is > 1.254, it indicates that the company is indicated to be deferring expenses, which will generate

greater profits (Apriani & Nuzula, 2019). AQI shows the quality of the company's non-current assets that are likely to provide benefits to the company in the future. The number of companies that are indicated to have committed fraud on the AQI ratio is not much. There are 12 companies out of a total of 43 companies that are indicated to have committed fraud on the AQI ratio. This indicates that these companies are trying to defer costs by reducing the quality of their assets.

Table 5. The Result of SGI

Perusahaan	Tahun				
	2016	2017	2018	2019	2020
APLN	0,995	1,224	0,653	0,706	1,588
ASRI	1,025	1,442	1,015	0,874	0,407
BAPA	0,710	1,365	0,613	0,852	0,393
BCIP	0,749	0,830	1,061	0,653	0,558
BEST	0,833	1,220	0,957	0,987	0,255
BIKA	1,606	0,764	0,845	0,966	0,343
BIPP	0,980	0,955	1,201	2,749	1,476
BKDP	1,147	0,824	0,835	0,975	0,556
BKSL	0,464	1,346	0,811	0,723	0,475
BSDE	0,952	1,587	0,641	1,069	0,872
CTRA	1,115	0,956	1,191	0,992	1,061
DART	1,117	0,591	0,851	1,216	0,702
DILD	0,967	0,968	1,159	1,072	1,057
DMAS	1,434	0,838	0,775	2,558	0,992
DUTI	0,835	0,851	1,295	1,105	0,701
ELTY	0,827	0,734	0,885	0,892	0,630
EMDE	0,984	1,200	0,574	0,726	0,519
FMII	0,594	0,088	1,226	1,949	0,609
GAMA	2,232	1,240	1,165	0,956	0,543
GMTD	1,100	0,818	0,802	1,110	0,813
GPRA	0,970	0,855	1,188	0,913	0,814
GWSA	0,592	0,601	1,582	0,556	0,432
JRPT	0,903	1,010	0,969	1,040	0,902
KIJA	1,071	1,022	0,906	0,831	1,063
LCGP	1,934	0,278	1,418	0,804	0,292
LPCK	1,373	0,001	1,472	0,767	1,088
LPKR	0,846	0,999	1,184	0,989	0,971
MDLN	1,202	1,296	0,665	0,729	0,473
MKPI	0,817	0,991	0,872	0,845	0,651
MMLP	0,933	1,191	1,433	1,116	1,008
MTLA	0,953	1,105	1,091	0,001	0,791
MTSM	0,951	0,990	1,142	1,056	0,773
NIRO	1,916	1,445	1,211	1,112	1,033
OMRE	1,083	0,779	0,829	1,014	0,459
PLIN	0,991	0,970	1,050	0,875	0,628
PPRO	0,700	1,260	0,944	0,635	1,278
PWON	0,955	1,188	1,232	1,017	0,552
RBMS	0,946	7,638	1,335	0,516	0,268
RDTX	1,038	0,973	1,013	0,996	1,003
RODA	2,054	0,583	0,811	1,344	0,357
SMDM	1,168	0,947	1,151	1,056	0,679
SMRA	1,042	1,045	1,004	1,050	0,847
TARA	2,203	1,011	0,480	0,918	0,394

Source: Research results, 2022 (Processed Data)

In the SGI ratio, if the value is > 1.607, it indicates an indication of an increase in sales from the previous year and tends to try

to maintain this condition (Apriani & Nuzula, 2019). In this ratio, there are 9 (nine) companies out of a total of 43 companies that indicated fraud. This shows that only a few companies experienced sales growth and maintained their sales conditions continued to increase.

Table 6. The Result of DEPI

Perusahaan	Tahun				
	2016	2017	2018	2019	2020
APLN	0,854	0,971	0,862	1,206	0,817
ASRI	0,813	0,872	0,914	0,832	0,853
BAPA	0,948	0,989	1,698	0,945	0,825
BCIP	0,841	0,801	0,869	0,980	0,993
BEST	1,284	0,867	1,000	0,914	0,889
BIKA	0,887	0,816	0,824	0,943	0,866
BIPP	0,727	0,839	0,891	0,968	1,012
BKDP	0,954	1,156	0,852	0,864	0,890
BKSL	0,906	1,033	0,947	0,926	0,929
BSDE	0,930	0,902	0,897	0,946	0,954
CTRA	0,890	0,896	0,885	0,911	0,843
DART	1,454	1,658	2,010	0,682	0,762
DILD	1,031	0,890	0,954	0,937	0,923
DMAS	1,190	0,706	0,763	0,805	0,817
DUTI	1,011	0,980	0,935	0,964	0,946
ELTY	0,842	0,276	0,934	4,341	0,929
EMDE	0,929	0,989	0,876	0,945	0,968
FMII	0,220	0,998	0,905	0,957	1,082
GAMA	0,920	0,790	0,840	0,918	0,881
GMTD	0,942	0,926	0,990	1,002	1,017
GPRA	0,831	1,211	0,742	0,937	0,952
GWSA	0,600	0,704	0,916	0,818	0,842
JRPT	0,868	1,113	0,961	0,983	0,978
KIJA	0,895	0,909	0,872	0,906	0,896
LCGP	0,880	0,923	5,113	1,128	0,792
LPCK	0,959	0,980	0,903	0,946	0,871
LPKR	0,942	1,052	1,132	0,904	1,109
MDLN	0,932	0,969	0,907	0,933	0,864
MKPI	1,031	1,028	1,089	0,979	0,973
MMLP	0,629	0,731	0,838	0,789	0,797
MTLA	0,915	0,871	0,901	0,992	1,094
MTSM	0,999	1,218	1,000	1,025	1,032
NIRO	0,763	0,679	0,894	0,944	0,899
OMRE	0,955	0,985	0,922	0,982	0,995
PLIN	0,939	0,957	0,969	0,847	0,983
PPRO	0,701	16,760	0,187	0,727	0,660
PWON	1,011	0,876	0,923	1,041	0,982
RBMS	1,084	2,016	0,927	0,889	1,157
RDTX	0,944	0,317	0,988	1,067	0,889
RODA	0,731	0,847	0,805	0,831	0,933
SMDM	0,343	0,004	0,926	0,913	0,903
SMRA	0,935	0,903	0,936	0,925	0,974
TARA	0,641	0,788	0,811	0,860	0,898

Source: Research results, 2022 (Processed Data)

In the DEPI ratio, if the value is > 1.077, it indicates that the company is indicating an increase in the age of its assets, or it could also indicate that the company is implementing new methods to increase revenue (Apriani & Nuzula, 2019). In this ratio, there are 18 (eighteen) companies out of a total of 43 companies with indications



of fraud. This shows that only a few companies commit fraud using depreciation loopholes.

**Table 7. The Result of SGAI**

Perusahaan	Tahun				
	2016	2017	2018	2019	2020
APLN	0,939	0,854	1,415	1,320	0,501
ASRI	0,882	0,735	1,176	1,239	2,065
BAPA	0,864	0,901	1,086	1,201	2,001
BCIP	0,695	1,248	0,797	1,579	1,601
BEST	0,862	1,071	1,047	1,053	3,272
BIKA	1,935	1,081	1,170	0,958	1,671
BIPP	1,353	0,919	1,912	0,300	0,550
BKDP	1,398	1,254	1,138	0,994	1,233
BKSL	0,467	0,780	1,508	1,104	1,534
BSDE	1,012	0,722	1,710	0,918	1,033
CTRA	1,203	1,018	0,921	1,042	0,877
DART	1,077	1,560	1,209	1,203	1,232
DILD	1,075	1,029	0,970	0,839	0,721
DMAS	1,011	1,731	1,168	0,547	1,202
DUTI	0,832	1,184	0,851	0,912	1,306
ELTY	0,871	1,278	1,050	1,187	1,089
EMDE	0,962	0,925	1,710	1,454	1,274
FMII	0,562	11,349	0,754	0,611	2,080
GAMA	1,315	0,993	0,845	1,126	1,711
GMTD	0,939	1,138	1,072	1,417	1,227
GPRA	1,040	1,123	0,828	1,159	0,950
GWSA	0,459	2,274	0,634	1,700	1,717
JRPT	0,964	1,096	0,959	0,983	0,985
KIJA	1,121	1,029	1,136	1,211	0,902
LCGP	1,907	3,076	0,543	0,924	1,872
LPCK	1,284	1,494	0,745	0,901	1,310
LPKR	0,980	1,135	0,943	1,155	1,047
MDLN	1,075	1,135	1,504	1,474	1,706
MKPI	0,935	1,051	1,190	1,111	1,472
MMLP	1,417	0,991	0,869	0,934	1,591
MTLA	1,006	0,967	1,066	1,013	1,047
MTSM	0,725	1,058	1,554	1,022	1,426
NIRO	2,175	0,672	1,287	0,861	0,822
OMRE	1,180	1,253	1,218	0,891	2,033
PLIN	0,925	0,991	1,007	0,854	0,922
PPRO	0,871	0,823	2,363	0,326	0,592
PWON	1,167	0,967	0,847	1,009	1,314
RBMS	0,935	0,837	0,913	2,095	2,514
RDTX	1,515	0,937	1,109	0,999	1,070
RODA	1,543	1,353	1,153	0,867	2,257
SMDM	1,287	1,065	0,891	1,022	1,141
SMRA	1,088	0,987	0,973	1,009	0,951
TARA	1,703	0,482	2,067	1,124	2,277

Source: Research results, 2022 (Processed Data)

In the SGAI ratio, if the value is > 1.041 it indicates an increase in administrative and marketing costs (Apriani & Nuzula, 2019). Out of a total of 43 companies, only 1 (one) company has no indication of fraud. This shows that many companies are less efficient in managing their administrative and marketing costs.

**Table 8. The Result of LVGI**

Perusahaan	Tahun				
	2016	2017	2018	2019	2020
APLN	0,971	0,981	0,982	0,956	1,110
ASRI	0,995	0,911	0,926	0,954	1,078
BAPA	0,944	0,839	0,792	0,197	1,082
BCIP	0,988	0,935	0,902	0,967	1,018
BEST	1,016	0,938	1,029	0,896	1,016
BIKA	1,048	0,980	1,015	1,031	1,498
BIPP	1,443	1,135	1,477	1,072	0,893
BKDP	3,039	0,432	1,086	0,977	1,020
BKSL	0,896	0,909	1,031	1,099	1,161
BSDE	0,942	1,002	1,148	0,916	1,131
CTRA	1,010	1,008	1,005	0,990	1,090
DART	1,000	1,094	1,095	1,075	1,085
DILD	1,068	0,905	1,045	0,942	1,204
DMAS	0,504	1,169	0,667	3,544	1,232
DUTI	0,809	1,081	1,205	0,908	1,073
ELTY	0,990	1,329	0,417	0,914	1,004
EMDE	1,105	1,168	1,065	1,038	1,214
FMII	0,539	1,165	1,891	1,051	0,951
GAMA	1,024	1,181	0,915	1,040	1,091
GMTD	0,850	0,903	0,900	0,966	1,082
GPRA	0,895	0,873	0,951	1,136	1,162
GWSA	0,872	1,060	1,095	1,087	0,879
JRPT	0,930	0,875	0,989	0,923	0,932
KIJA	0,971	1,003	1,021	0,992	1,009
LCGP	0,559	1,019	0,900	0,870	1,000
LPCK	0,741	1,523	0,519	0,554	2,954
LPKR	0,951	0,919	1,031	0,769	1,451
MDLN	1,034	0,943	1,070	1,127	1,151
MKPI	0,869	0,761	0,760	0,961	1,086
MMLP	0,843	0,752	0,994	1,300	0,857
MTLA	0,936	1,038	0,895	1,094	0,846
MTSM	0,929	1,146	1,234	1,820	1,268
NIRO	1,718	1,171	0,754	1,146	1,734
OMRE	0,455	1,566	1,765	1,109	1,338
PLIN	1,035	1,569	0,960	0,103	1,269
PPRO	1,260	0,907	1,075	1,158	1,009
PWON	0,941	0,969	0,858	0,790	1,092
RBMS	0,355	13,876	0,643	0,838	1,052
RDTX	0,861	0,760	0,853	1,150	0,814
RODA	0,862	1,508	1,082	1,200	1,165
SMDM	0,903	1,019	0,936	0,956	0,943
SMRA	1,015	1,011	0,995	1,004	1,036
TARA	0,708	1,076	0,421	1,035	0,654

Source: Research results, 2022 (Processed Data)

In the LVGI ratio, if the value is > 1.111 it indicates a high need to pay off debt (Apriani & Nuzula, 2019). There are 25 companies out of a total of 43 companies that are indicated to have committed fraud on the LVGI ratio. This shows that many companies have high debt.

**Table 9. The Result of ACCRUALS**

Perusahaan	Tahun				
	2016	2017	2018	2019	2020
APLN	0,016	0,040	-0,020	-0,012	-0,026
ASRI	-0,048	-0,021	-0,019	-0,031	0,033
BAPA	0,003	0,002	0,006	0,033	-0,017
BCIP	-0,050	0,054	0,048	0,027	0,006
BEST	0,009	-0,038	-0,045	0,063	-0,049
BIKA	0,102	0,041	-0,011	-0,020	-0,059
BIPP	0,002	-0,021	-0,088	-0,055	-0,015
BKDP	-0,100	-0,099	-0,047	-0,058	-0,015
BKSL	0,009	0,027	-0,028	-0,025	-0,053
BSDE	0,060	0,011	0,002	0,048	-0,017
CTRA	0,039	0,015	0,008	0,008	0,004
DART	0,002	0,021	0,018	-0,004	-0,047
DILD	0,103	0,062	0,016	0,064	0,003
DMAS	0,008	-0,013	0,021	-0,081	-0,229
DUTI	0,112	0,015	-0,019	0,006	0,011
ELTY	-0,008	0,007	0,220	-0,065	-0,023
EMDE	0,119	0,159	0,103	0,014	-0,007
FMII	0,233	-0,004	-0,028	-0,013	0,011
GAMA	0,023	0,057	-0,031	0,011	-0,010
GMTD	0,099	0,053	0,036	-0,069	-0,109
GPRA	0,011	0,018	0,025	0,031	-0,004
GWSA	0,046	0,047	0,048	0,038	0,010
JRPT	0,064	0,056	0,003	0,054	0,033
KIJA	-0,011	-0,043	-0,006	-0,019	-0,033
LCGP	-0,014	-0,001	-0,005	-0,001	-0,002
LPCK	0,049	0,305	0,314	0,052	-0,304
LPKR	0,039	0,094	0,074	0,045	-0,140
MDLN	-0,013	-0,005	0,046	-0,029	-0,110
MKPI	0,056	0,102	0,035	-0,037	-0,023
MMLP	0,080	0,052	0,024	0,020	-0,014
MTLA	0,002	0,098	-0,004	0,008	0,024
MTSM	0,007	-0,006	-0,019	-0,055	-0,029
NIRO	-0,012	-0,007	-0,005	-0,005	0,030
OMRE	0,110	-0,011	0,046	-0,014	0,019
PLIN	0,034	-0,036	-0,070	-0,005	-0,046
PPRO	0,062	0,031	0,025	0,025	0,032
PWON	0,022	-0,010	0,018	0,056	-0,011
RBMS	-0,062	-0,009	-0,049	-0,009	-0,067
RDTX	0,007	-0,003	0,004	-0,013	0,011
RODA	0,057	0,030	0,033	-0,052	-0,037
SMDM	0,022	0,001	0,028	0,017	-0,021
SMRA	0,026	0,042	0,035	0,004	0,011
TARA	-0,025	-0,014	0,006	-0,008	-0,042

Source: Research results, 2022 (Processed Data)

In the ACCRUALS ratio, if the value is > 0.031 it indicates the possibility for companies to manipulate more profits (Annisa & Ghozali, 2020). There were 29 companies out of a total of 43 companies that indicated fraud in the ACCRUALS ratio. It shows a large company's accruals so that there is a possibility to manipulate profits more.

Of the eight ratios in the Beneish Ratio Index, the ratios most frequently detected in fraud are DSRI, SGAI, LVGI, and ACCRUALS.

#### 4.1.2 Beneish M-Score

After getting the score per ratio, the score was analyzed using M-Score with the following results:

**Table 10. The Result of M-Score**

Perusahaan	Tahun				
	2016	2017	2018	2019	2020
APLN	-2,25	-2,01	-2,32	-2,50	-2,48
ASRI	-2,18	-2,34	-2,57	-3,26	-2,05
BAPA	24,65	-2,98	-0,40	22,55	-1,55
BCIP	-3,22	-1,52	-1,86	-2,71	-1,64
BEST	-1,81	-2,25	-3,32	0,47	-4,23
BIKA	-1,62	-0,92	-3,32	-2,61	-1,57
BIPP	-2,26	-2,16	-3,16	-1,69	-1,83
BKDP	-3,69	-0,31	-3,17	-1,74	-2,83
BKSL	-3,18	-1,97	-2,68	-2,92	-3,70
BSDE	-0,37	-2,07	-2,62	-2,25	-3,21
CTRA	-2,57	-1,10	-2,10	-2,97	-2,52
DART	-2,55	-1,77	-2,59	-2,47	-2,39
DILD	-2,27	-2,17	-1,10	-2,27	-3,03
DMAS	-1,29	-3,82	-1,43	1,54	-4,65
DUTI	-1,19	-2,28	-2,30	-1,92	-3,49
ELTY	-2,86	-2,75	-0,99	-2,57	-2,49
EMDE	-1,66	-1,80	-1,42	-3,00	-3,55
FMII	-1,61	-5,64	-3,24	-1,91	-2,82
GAMA	-1,13	-1,94	-3,27	-0,07	-2,99
GMTD	-2,50	3,52	-1,90	-3,67	-2,23
GPRA	-2,52	-2,23	-2,34	-2,29	-3,24
GWSA	-2,90	-2,82	-1,72	-3,54	-2,58
JRPT	-2,31	-2,02	-2,27	-2,15	-2,97
KIJA	-1,66	-2,90	-1,89	-2,66	-3,11
LCGP	-0,21	-1,98	-2,06	1,17	-1,53
LPCK	-1,68	-1,79	-0,42	-1,63	-5,51
LPKR	-2,33	-1,74	-2,07	-1,95	-3,44
MDLN	-1,83	-2,86	-0,74	-3,84	-2,56
MKPI	-2,27	-1,92	-1,70	-2,77	-2,15
MMLP	-3,06	-0,48	0,97	3,23	-3,43
MTLA	-2,69	-1,57	-2,75	-3,20	-2,27
MTSM	-0,15	-2,67	-3,08	1,22	-0,40
NIRO	-1,62	-2,36	-2,21	-3,13	-1,84
OMRE	-0,32	-0,94	-2,08	-2,39	-0,65
PLIN	-2,31	-2,74	-2,74	-2,34	-0,31
PPRO	-1,44	0,22	-2,40	-3,11	-1,79
PWON	-2,65	-1,62	-2,28	-1,45	-3,41
RBMS	-2,74	-0,98	-1,71	-2,57	-2,51
RDTX	-2,52	0,18	-2,53	-2,71	-0,36
RODA	-1,21	-3,66	-0,39	-3,07	-4,42
SMDM	-1,83	-2,78	-2,62	-2,08	-2,89
SMRA	0,21	-2,03	-2,69	-2,78	-2,12
TARA	-2,23	-0,22	-1,77	-1,69	-4,13

Source: Research results, 2022 (Processed Data)

From the result of the M-Score calculation above, it can be seen that companies detected as manipulators from 2016 to 2020. If M-Score < -2,22 indicates non-manipulator, if M-Score > -2,22 indicates a manipulator, and if M-Score = -2,22 indicates grey company. It can be seen that almost all companies are detected as manipulators. The only one company that was detected as non-manipulator for five years was Perdana Gapuraprima Tbk.

(GPRA). And no company was detected as a grey company. The companies detected as manipulators based on the results of the M-Score indicate that there has been earning manipulation in these companies.

#### 4.1.3 Percentage of Companies Indicated as Manipulator, Non-Manipulators, and Grey Company

a. Percentage of companies indicated as manipulator, non-manipulators, and grey company in 2016.

$$\text{manipulator} = \frac{21}{43} \times 100\% = 48,84\%$$

$$\text{non-manipulator} = \frac{22}{43} \times 100\% = 51,16\%$$

$$\text{grey company} = \frac{0}{43} \times 100\% = 0\%$$

b. Percentage of companies indicated as manipulator, non-manipulators, and grey company in 2017.

$$\text{manipulator} = \frac{26}{43} \times 100\% = 60,47\%$$

$$\text{non-manipulator} = \frac{17}{43} \times 100\% = 39,53\%$$

$$\text{grey company} = \frac{0}{43} \times 100\% = 0\%$$

c. Percentage of companies indicated as manipulator, non-manipulators, and grey company in 2018.

$$\text{manipulator} = \frac{21}{43} \times 100\% = 48,84\%$$

$$\text{non-manipulator} = \frac{22}{43} \times 100\% = 51,16\%$$

$$\text{grey company} = \frac{0}{43} \times 100\% = 0\%$$

d. Percentage of companies indicated as manipulator, non-manipulators, and grey company in 2019.

$$\text{manipulator} = \frac{17}{43} \times 100\% = 39,53\%$$

$$\text{non-manipulator} = \frac{26}{43} \times 100\% = 60,47\%$$

$$\text{grey company} = \frac{0}{43} \times 100\% = 0\%$$

e. Percentage of companies indicated as manipulator, non-manipulators, and grey company in 2020.

$$\text{manipulator} = \frac{14}{43} \times 100\% = 32,56\%$$

$$\text{non-manipulator} = \frac{29}{43} \times 100\% = 67,44\%$$

$$\text{grey company} = \frac{0}{43} \times 100\% = 0\%$$

#### 4.1.4 Graph of the Growth of Fraudulent Financial Statements for Five Years

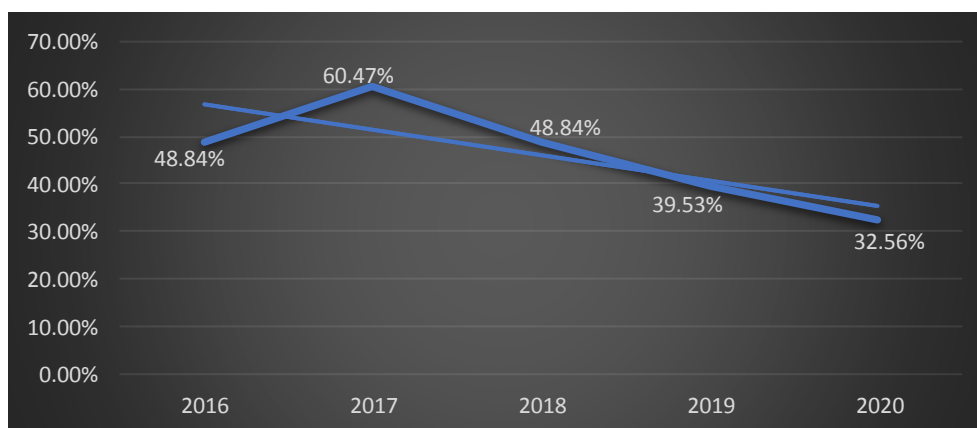


Figure2. Graph of the Growth of Fraudulent Financial Statements for Five Years  
Source: Research results, 2022 (Processed Data)

In the graph above, it can be seen that the trend of fraudulent financial statements decreased from 2016 to 2020. In 2016 companies indicated to commit fraud were 48,84%. In 2017 it increased to 60,47%. In 2018 it decreased to 48,84%. In 2019 it decreased to 39,53%. In 2020 it decreased

to 32,56%. This shows that there are fewer fraudulent financial statements by companies.

#### 4.2 DISCUSSION

The results of the M-Score analysis showed that only one company was not detected

committing fraud during the five years of the study, it was PT Perdana Gapuraprima Tbk. (GPRA). The company that holds the highest M-Score 24,65 in 2016 is PT Bekasi Asri Pemula Tbk (BAPA). Meanwhile, the company holding the lowest M-Score -3,69 in 2016 is PT Bukit Darma Property Tbk. (BKDP). The company that holds the highest M-Score 3,52 in 2017 is PT Gowa Makassar Tourism Development Tbk. (GMTD). Meanwhile, the company holding the lowest M-Score -5,64 in 2017 is PT Fortune Mate Indonesia Tbk. (FMII). The company that holds the highest M-Score -0,39 in 2018 is PT Pikko Land Development Tbk. (RODA). Meanwhile, the company holding the lowest M-Score -3,32 in 2018 are PT Bekasi Fajar Industrial Estate Tbk. (BEST) and PT Binakarya Jaya Abadi Tbk (BIKA). The company that holds the highest M-Score 22,55 in 2019 is PT Bekasi Asri Pemula Tbk. (BAPA). Meanwhile, the company holding the lowest M-Score -3,84 in 2019 is PT Modernland Realty Tbk. (MDLN). The company that holds the highest M-Score -0,31 in 2020 is PT Plaza Indonesia Realty Tbk. (PLIN). Meanwhile, the company holding the lowest M-Score -5,51 in 2020 is PT Lippo Cikarang Tbk. (LPCK).

Based on data processing that has been carried out and the results obtained, it can be seen that the number of companies indicated as manipulators is still less than non-manipulators. Although there are fewer companies that are indicated to be fraudulent than those who are not indicated to be fraudulent from a total of 43 sample companies, the number is quite large. These results indicate that there are still quite a number of companies that are dishonest in disclosing their financial condition, so investors and creditors need to be more careful in making investment decisions or granting credit.

Based on the line of financial statement fraud growth shows a decline. This indicates that the level of indication of fraud in the company's financial statements in property

and real estate companies can be suppressed to the maximum.

## 5. CONCLUSION AND SUGGESTIONS

### 5.1 Conclusion

From the result of the research, there are several conclusions:

1. The company that indicated as manipulator according to Beneish M-Score as many as 21 companies (48,84%) in 2016, 26 companies (60,47%) in 2017, 21 companies (48,84%) in 2018, 17 companies (39,53%) in 2019, and 14 companies (32,56%) in 2020.
2. The company that indicated as non-manipulator according to Beneish M-Score as many as 22 companies (51,16%) in 2016, 17 companies (39,53%) in 2017, 22 companies (51,16%) in 2018, 26 companies (60,47%) in 2019, and 29 companies (67,44%) in 2020.
3. There is no company indicated as grey company according to Beneish M-Score.
4. Based on the data processing that has been carried out and the results obtained, property and real estate companies listed on Indonesia Stock Exchange are indicated to be experiencing earning manipulation.
5. The growth rate of fraudulent financial statements in property and real estate companies listed on the Indonesia Stock Exchange decreased from 2016 to 2020, although in 2017 it increased but the trend graph from 2016 to 2020 showed a decline.

### 5.2 Research Limitations

This study only applies the Beneish model in grouping property and real estate companies that are classified as manipulator, non-manipulators, and grey companies and does not conduct further searches on companies that are indicated to have fraudulent financial statements. This research is not intended to accuse or give judgment to any party, but as a precaution

against fraud. The detection tool using Beneish M-Score can be an “early detection” tool so that it can avoid unwanted losses in the future.

### 5.3 Suggestions

Based on the results of the research, there are some recommendations that can be given as follows:

1. For companies that are indicated as manipulators, they can see the results of this study as a warning for fraudulent financial statements so that the company can present its financial statements more carefully by following the rules that have been set, and can check the company's internal for the possibility of fraud that has escaped the supervision of the internal or external auditor.
2. For investor and potential investors, this research can be taken into consideration in making decisions in investing in companies classified as manipulators in order to minimize the risk of future losses, and it is advisable to always ensure that the company's financial statements have been submitted honestly.

### Declaration by Authors

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