RESEARCH ARTICLE

THE PREDICTION OF COMPANY FINANCIAL PERFORMANCE BANKRUPTCY BY RATIO, STOCK AND Z-SCORE(PT MAIN TBK).

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Abstract

The objective of this study is to analyze The Predict of Company Financial Performance Bankruptcy By Ratio, Stock An Z-Score whether it is good or bad with PT Main TBK as the study object. Based on the study objective, the hypotheses are: 1) Company financial performance is good if it is measured by using the ratio analysis tool; 2) Company financial performance is good if it is measured by using stock analysis tool; 3) Company financial performance is good if it is measured by using Z-score analysis tool.

The study design used was descriptive study, while the study method used was through documentation approach. The study sample is the financial report from 2014 to 2017 of PT Main TBK. The sampling technique used area sampling (Sugiono, 2009). Analysis methods used were ratio analysis, stock analysis and Z-score analysis to answer the hypotheses.

The study result based on descriptive analysis toward variable used on company financial performance is proven to be good. The study result based on the three analysis tools toward variable used on company financial performance is proven to be good. The three analysis result analysis toward the hypotheses test based on the empirical data of 3 hypotheses proven are the ratio analysis result toward company financial performance is proven to be good, the stock analysis toward company financial performance is proven to be good, and the Z score analysis result toward company financial performance is proven to be good.

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Introduction:

Online business rapidly grows nowadays. This global business has reached all over the world and one of this is retail online business. This business does not need huge investment. With just a little amount of money, this business can run well as long as the products suit the customers’ taste or interest. Buyers do not need to come to see the stuff since they just need to use their cell phone to look for the items needed. The order is via online, then pay it by using e-money. Finally the order will be delivered to their front door. The industry that has the impact of the advanced technology is the retail industry such as Ramayana, Pasar Raya, Hypermart, Carefour etc that start fall apart (Kompas newspaper, 2017). Meanwhile, the retail survived is PT Main TBK even though some branches have been closed down (Pre-research).

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Bankruptcy is a major problem that needs to be wary about by every company. If the company is bankrupt it means the company is failed in running its business. Therefore, there must be an early analysis on bankruptcy prediction (Demitras, 2005)

Company ability to pay its debt, not only the short term but also the long term, company ability to provide working equity, company ability to run the business, company ability to make profit and pay dividend to the investors are the profile of healthy company. PT Main TBK becomes the object of the study where the researchers will predict the financial performance. Financial healthy performance will be analyzed through ratio analysis, stock analysis and z-score analysis.

**Identification and Study Framework:**
1. Is the financial performance condition of PT Main TBK good if it is measured by Ratio Analysis?
2. Is the financial performance condition of PT Main TBK good if it is measured by Stock Analysis?
3. Is the financial performance condition of PT Main TBK good if it is measured by Z-score?

**Literature:**

**Company financial performance:**
Dimitras (2005) stated that company financial performance is an attainment achieved by the company that is stated in form of money value and described in a form of company financial report. Company financial performance can be measured by using ratio analysis, stock analysis and z-score analysis.

**Ratio Analysis:**
Ratio analysis is an analysis tool used to measure the company financial performance from the liquidity, solvability, activity and profitability (Athur et.al, 2000).

**Stock Analysis:**
According to Jacobson et.al. (2004) stock is a form of possession of company under the name of someone in form of paper.

Stock analysis is used to measure stock price and company condition with the measurement tools of earnings per share, price earning ratio, dividend per share, dividend yield and book value (Jacobson et.al., 2004).

**Z-score Analysis:**
Z-score is an analysis tool of acceptable bankruptcy prediction and can be used to predict future possibility of a company image whether it is in normal or bankrupt condition. Z-score is current assets, current liability, working capital, total assets (A); earning before tax, total assets (B); earning before tax, current liability (C); sales, total assets (D) (Altman, 1968).

**Hypotheses:**
- Financial performance condition is measured by ratio analysis:
  - Financial performance condition is good measured by ratio analysis

- Financial performance condition is measured by stock analysis:
  - Financial performance condition is good measured by stock analysis

- Financial performance condition is measured by z-score analysis:
  - Financial performance condition is good measured by z-score analysis

**Study Concept:**
According to the study context, it creates study conceptual model. The Prediction of Company Financial Performance Bankruptcy by Ratio, Stock and Z-score, and the analysis tools are ratio analysis, stock analysis and z-score with PT Main TBK as the study object Figure 1.
Study Methodology:
The design of this study uses descriptive study through secondary data approach. The number of samples are 4 periods of financial report in PT Main TBK, stars from 2014 to 2017 in Jakarta, Indonesia. The sampling technique is area sampling (Sugiono, 2009)
Analysis tools used to describe the study variables are by using ratio analysis, stock analysis and z-score.

**Research Result:-**

**Ratio analysis:-**
The result of liquidity ratio can be seen in **Table 1**.

**Table 1**: Liquidity ratio (Rp. million)

|        | 2014       | 2015       | 2016       | 2017       |
|--------|------------|------------|------------|------------|
| 1      |            |            |            |            |
| Current Ratio                  | 83%        | 93%        | 115%       | 113%       |
| Current assets                 | 2,111.327  | 2,272.741  | 2,974.000  | 2,973.745  |
| Current liability              | 2,518.524  | 2,439.014  | 2,586.354  | 2,610.824  |
| 2      | Cash Ratio |            |            |            |
| Cash                           | 31%        | 39%        | 66%        | 61%        |
| Current liability              | 785.895    | 946.658    | 1,712.844  | 1,582.817  |
| 3      | Quick Ratio|            |            |            |
| Current assets - Inventory     | 46%        | 47%        | 77%        | 75%        |
| Current liability              | 2,111.517- | 2,272.741- | 2,974.000- | 2,973.745- |
| 2618  | 2,518.521  | 2,439.014  | 2,566.354  | 2,610.824  |
| 4      | Working Capital to Total Assets | -16 %    | 5 %        | 7 %        | 6%         |
| Current assets - C. liabilities| 2,111.507- | 2,272.741- | 2,974.000- | 2,973.745- |
| Total assets                    | 2,421.954  | 2,439.014  | 2,586.354  | 2,610.824  |

The result of solvability ratio can be seen in **Table 2**.

**Table 2**: Solvability ratio (Rp. million)

|        | 2014       | 2015       | 2016       | 2017       |
|--------|------------|------------|------------|------------|
| 1      | Debt to Equity Ratio | 2108 %    | 259%       | 161 %      | 130%       |
| Total liability                      | 3,253.691  | 2,783.124  | 3,003.635  | 3,099.441  |
| Equity                        | 150.263    | 1,106.167  | 1,855.243  | 2,377.965  |
| 2      | Debt Ratio |            |            |            |            |
| Total liability                      | 95%        | 71%        | 62%        | 57%        |
| Total Assets                        | 3,253.691  | 2,783.126  | 3,003.635  | 3,099.441  |
| 3      | Long term Debt Equity | 490 %    | 31%        | 22%        | 20%        |
| Long term liability                | 735.170    | 344.110    | 415.281    | 488.617    |
| Equity                        | 150.263    | 1,106.167  | 1,855.243  | 2,377.965  |
| 4      | Time Interest Earning Ratio | 11 X     | 30 X       | 230 X      | 159 X      |
| EBIT                      |            |            |            |            |
Interest of long term liability

| Year | 2014   | 2015   | 2016   | 2017   |
|------|--------|--------|--------|--------|
| 1    | 1.850.594 | 169.097 | 2.244.621 | 73.702 |
| 2    | 2.532.666 | 11.750  | 2.396.300 | 15.474 |

The result of activity ratio can be seen in **Table 3**.

**Table 3**: Activity ratio (Rp. million)

| Part                        | 2014         | 2015         | 2016         | 2017         |
|-----------------------------|--------------|--------------|--------------|--------------|
| 1. Total assets turn over   | 2.3 X        | 2.3 X        | 2 X          | 1.8 X        |
| Sales                       | 7.925.547    | 9.006.893    | 9.897.046    | 10.023.961   |
| Total assets                | 3.412.254    | 3.889.291    | 4.858.878    | 5.427.426    |
| 2. Receivable turn over     | 220 X        | 140 X        | 471 X        | 589 X        |
| Sales                       | 7.925.547    | 9.006.893    | 9.897.046    | 10.023.961   |
| Average of receivable       | 36.716       | 64.327       | 21.469       | 17.763       |
| 3. Average collection period| 1.66 hari    | 2.57 hari    | 0.78 hari    | 0.63 hari    |
| Receivable X 360            | 36.716 X 360 | 64.327 X 360 | 21.469 X 360 | 17.763 X 360 |
| Sales                       | 7.925.547    | 9.006.893    | 9.897.046    | 10.023.961   |
| 4. Inventory turn over      | 3.5 X        | 2.8 X        | 3.1 X        | 3.7 X        |
| Cost of goods               | 3.335.638    | 2.877.507    | 3.085.279    | 3.762.021    |
| Inventory                   | 955.231      | 1.007.811    | 995.276      | 1.005.484    |
| 5. Average days inventory   | 103 hari     | 126 hari     | 116 hari     | 98 hari      |
| Inventory X 360             | 955.231 X 360 | 1.007.811 X 360 | 995.276 X 360 | 1.025.484 X 360 |
| Cost of goods               | 3.335.638    | 2.877.507    | 3.085.279    | 3.762.021    |

The result of profit ratio can be seen in **Table 4**.

**Table 4**: Profit ratio (Rp. million)

| Part                        | 2014   | 2015   | 2016   | 2017   |
|-----------------------------|--------|--------|--------|--------|
| 1. Gross margin ratio       | 73 %   | 62 %   | 62 %   | 62 %   |
| Gross profit                | 5.818.040 | 5.671.255 | 6.211.767 | 6.261.940 |
| sales                       | 7.925.543 | 9.006.893 | 9.897.046 | 10.023.961 |
| 2. Operating income ratio   | 23 %   | 24 %   | 35 %   | 23 %   |
| Operating income            | 1.850.544 | 2.244.821 | 3.532.666 | 2.395.300 |
| Sales                       | 7.925.543 | 9.006.893 | 9.877.046 | 10.023.961 |
| 3. Operating ratio          | 207 %  | 75 %   | 74 %   | 76 %   |
| GGS + expenses              | 2887.507 + 2.937.013 | 3.335.638 + 3.341.741 | 3.685.279 + 3.683.671 | 3.762.021 + 3.852.299 |
The result of stock analysis can be seen in Table 5.

### Table 5: Stock analysis (Rp. million)

|                          | 2014  | 2015  | 2016  | 2017  |
|--------------------------|-------|-------|-------|-------|
| **1. Earning per share** | -     | -     | -     | -     |
| Earning after tax        | 486.498 | 610.506 | 692.391 | 653.780 |
| Number of shares         | 2.917. | 2.917. | 2.917. | 2.917. |
| **2. Price earning ratio** | -     | -     | -     | -     |
| Stock market price       | 5.450 | 5.450 | 5.450 | 5.450 |
| Earning per share        | 486.408 | 610.506 | 692.391 | 653.780 |
| **3. Deviden per share** | -     | -     | -     | -     |
| Deviden payment by cash  | 480.448 | 851.448 | 1.246.826 | 1.434.023 |
| Number of shares outstanding | 2.917 | 2.917 | 2.917 | 2.917 |
| **4. Deviden Yield** | -     | -     | -     | -     |
| Deviden per share        | 3 %   | 5 %   | 7 %   | 9 %   |
| Stock market price       | 164 | 291 | 427 | 491 |
| **5. Book value** | -     | -     | -     | -     |
| Owner’s equity           | 51.478 | 379.213 | 636.010 | 815.209 |
| Number of shares outstanding | 150.163 | 1.106.167 | 1.855.243 | 2.377.965 |

### Stock analysis:

The result of stock analysis can be seen in Table 5.

Z-score:

The result of Z-score analysis can be seen in Table 6.
Table 6:- Z-score (Rp. million)

|                      | 2014      | 2015      | 2016      | 2017      |
|----------------------|-----------|-----------|-----------|-----------|
| Current Assets       | 2,111,327 | 2,272,741 | 2,974,000 | 2,973,745 |
| Current liability    | 2,518,521 | 2,439,014 | 2,566,354 | 2,610,824 |
| Working Capital (CA-CL)| (407,014) | (166,273) | 407,651   | 362,921   |
| Total Assets         | 3,421,954 | 3,889,291 | 4,858,878 | 5,427,426 |
| A (WC : TA)          | -0.11     | -0.04     | 0.08      | 0.66      |
| Earning before tax   | 1,850,546 | 2,244,821 | 3,532,666 | 2,395,300 |
| Current Assets       | 3,421,954 | 3,889,291 | 4,858,878 | 5,427,426 |
| B (E : TA)           | 0.54      | 0.57      | 0.72      | 0.44      |
| Earning before tax   | 1,850,546 | 2,244,821 | 3,532,666 | 2,395,300 |
| Current Liability    | 2,518,521 | 2,439,014 | 2,566,354 | 2,610,824 |
| C (E : CL)           | 0.73      | 0.92      | 1.97      | 0.91      |
| Sales                | 7,925,453 | 9,006,893 | 9,877,048 | 10,023,967|
| Total Assets         | 3,421,954 | 3,889,291 | 4,858,878 | 5,427,426 |
| D (S : TA)           | 2.31      | 2.31      | 2.03      | 1.84      |
| Z-Score (A+B+C+D)    | 3.67      | 3.84      | 4.2       | 3.25      |

Company condition
Z-score > 0.862

Good

Good

Good

Good

Result and Discussion:-
Ratio analysis value
Liquidity ratio analysis:-
Company liquidity is good when a company is able to fulfill its short-term debt with current assets as seen in Table 7.

Table 7:- Liquidity ratio

|                      | 2014 | 2015 | 2016 | 2017 | Condition |
|----------------------|------|------|------|------|-----------|
| 1 Current ratio      | 83%  | 93%  | 115% | 113% | Good      |
| 2 Cash ratio         | 31%  | 39%  | 66%  | 61%  | Good      |
| 3 Quick ratio        | 46%  | 47%  | 77%  | 75%  | Good      |
| 4 Working capital ratio | -16% | 5%   | 7%   | 6%   | Good      |

Current Ratio:-
The ability of current assets to pay for the current liability from 2014 to 2016 increased. In 2017 current ratio of 113% where current liability Rp 1,- guaranteed by current assets of Rp 1,3 with meant the company is still able to fully pay current liability by using current assets as seen in Table 7.

Cash Ratio:-
Measuring cash ability in paying for the current liability in Table 7 from year to year has increased. In 2017 current liability Rp 1,- is guaranteed by cash Rp 0.61.
Quick ratio:-
The ability of current assets decreased by stock to pay for current liability. In the Table 7 it has increase in 2017 of 75% not too different with the previous year.

Working capital ratio:-
Working capital ratio achieved from total assets used for company operational. In Table 7 working equity to total assets is still minus, and started from 2015 to 2017 it was getting better.

Analisa Ratio Solfabilitas:-
Company solvability is assumed good if company has adequate assets to pay for all of its debts as seen in Table 8.

| Table 8:-Ratio Solfabilitas | 2014 | 2015 | 2015 debt | 2017 | Condition |
|------------------------------|------|------|-----------|------|-----------|
| 1 Debt to equity ratio       | 2108% | 259% | 161%      | 130% | Good      |
| 2 Debt ratio                 | 95%  | 71%  | 62%       | 57%  | Good      |
| 3 Long term debt equity      | 490% | 31%  | 22%       | 20%  | Good      |
| 4 Time interest earning ratio| 11 X | 30 X | 230 X     | 159 X| Good      |

Debt to Equity Ratio:-
Company fulfils its short-term and long-term debt by using its own equity. In Table 8, debt to equity ratio from year to year has decreased which meant the equity increased and debt decreased.

Debt Ratio:-
Company fulfils its short-term and long-term debt by using its total assets. In Table 8 debt ratio in 2014 to 2017 decreased which meant the company increased total assets more and decreased debt.

Long term Debt Equity:-
Company in long-term debt is paid by using its own equity as seen in Table 8 long term debt equity trend decreased. In 2017 it was 18% which meant the company slightly depended on debt but dependent more its own equity.

Time Interest Earning Ratio:-
Time needed by the company to fully pay for its debt by using company earning is quite good as seen in Table 8 where time interest earning ratio in 2014 to 2016 increased. Then, in 2017 it was 159 X with a little decrease compared with 2016.

Activity ratio:-
Company activity ratio is assumed good where the company shows its effectiveness in using assets possessed.

| Table 9:-Activity ratio     | 2014  | 2015  | 2016  | 2017  | Condition |
|------------------------------|-------|-------|-------|-------|-----------|
| 1 Total assets turn over     | 2.3 X | 2.3 X | 2 X   | 1.8 X | Ugly      |
| 2 Receivable turn over       | 220 X | 140 X | 471 X | 589 X | Good      |
| 3 Average collection periodi| 1.66 days | 2.57 days | 0.78 days | 0.63 days | Good      |
| 4 Inventory turn over        | 3.5 X | 2.8 X | 3.1 X | 3.7 X | Good      |
| 5 Average days inventory     | 103 days | 126 days | 116 days | 98 days | Good      |

Total assets turn over:-
Company assets turn over was not effective and efficient. In the Table 9, in 2014 to 2017 it decreased which meant sale to total assets increase has not been followed by total assets turn over.

Receivable turn over:-
Receivable turn over is measuring how many times receivable turn over to become cash in 1 year as seen in Table 9 from 2014 to 2017 it has increase which last year it was 589 X.
Average collection period:
Receivable average period is < 30 days, as seen in Table 9, in 2014 to 2017 it showed receivable average period < 30 days (good).

Inventory turnover:
Inventory turnover ran effectively as seen in Table 9 in 2015 to 2017 increased which means the increase of good main progress is followed by increase in inventory.

Average days inventory:
Average days inventory is adequately good which is the average day of inventory becomes good stock year to year decreased. It meant inventory did not last long as stock. Inventory was used for goods and sold goods as seen in Table 9.

Profit Ratio:
Profitability ratio of the company in making profit in certain period is quite good as seen in Table 10.

| Table10: Profit Ratio | 2014 | 2015 | 2016 | 2017 | Condition |
|-----------------------|------|------|------|------|-----------|
| 1 Gross margin ratio  | 6.9% | 62%  | 62%  | 63%  | Good      |
| 2 Operating income ratio | 23%  | 24%  | 35%  | 23%  | Good      |
| 3 Operating ratio     | 76%  | 75%  | 74%  | 76%  | Good      |
| 4 Net profit margin   | 17%  | 20%  | 20%  | 19%  | Good      |
| 5 Earning power total investment | 54%  | 57%  | 72%  | 44%  | Good      |
| 6 Net earning power ratio | 41%  | 46%  | 41%  | 35%  | Good      |
| 7 ROR for owners      | 946% | 160% | 108% | 80%  | Good      |

Gross margin ratio:
In Table 10 company ability in having gross profit through sale activity from year to year has been increasing.

Operating income ratio:
Company operating income ratio ran well from 2015 to 2017 and keep growing as seen in Table 10.

Operating ratio:
Measuring main price and operational expense compared with selling activity from year to year is quite stable with operating ratio between 74% and 76% as seen in Table 10.

Net profit margin:
In Table 10 Company net profit after taxes toward sale is between 17% and 19% the change is not significant which meant the company is still able to make net profit through sale.

Earning power total investment:
The level of assets return through net profit before taxes in 2014 to 2016 increased. In 2017 earning power total assets decreased sharply to be 44%, however, this level is still considered good enough as seen in Table 10.

Net earning power ratio:
The level of assets return through net profit after taxes in 2014 to 2016 increased. In 2017 net earning power ratio slightly decreased to 35%, this level is still considered good enough as seen in Table 10.

ROR for owners:
Profit after taxes compared with owner equity in 2014 to 2016 increased. In 2017 ROR for Owners slightly decreased to 80%, however, it is still considered good enough as seen in Table 10.
Stock analysis:
Stock analysis measures company ability in making stocks interesting for the investors is assumed really good as seen in Table 11.

Table 11:-Stock analysis

|   | 2014       | 2015       | 2016       | 2017       | Condition |
|---|------------|------------|------------|------------|-----------|
| 1 | Earning per share | 486.498 | 610.506 | 692.391 | 653.780 | Good     |
| 2 | Price earning ratio | 112 % | 89 % | 78 % | 83 % | Good     |
| 3 | Deviden per share | 164 | 291 | 427 | 491 | Good     |
| 4 | Deviden yield | 3% | 5% | 7% | 9% | Good     |
| 5 | Book value | 51.478 | 379.213 | 636.010 | 815.209 | Good     |

Earning per share:-
Measuring company ability in making earnings per share as seen in Table 11, earning per share in 2014 to 2016 increased. In 2017 it was slightly decreased which meant the company is still able to earn profit.

Price earning ratio:-
Price earning ratio describes company earning toward stock price that shows the return is decrease and increases, the company condition is good that price pershare stable can be seen in Table 11.

Deviden per share:-
Deviden per share measures dividend return level given by company to the stock holder from 2014 to 2017 increased. In Table 11, in 2017 company was able to give dividend of Rp.514.226 per share distributed.

Devidend yield:-
In Table 11 dividend yield measures dividend yield level given by each share compared with stock market price distributed shows increasing. In the last 2017 it showed dividend yield 9.1%.

Book value:-
Owner equity compared with distributed stock number increases every year which means equity increase is also followed by the increase number of share distributed as seen in Table 11.

Z-score:-
A good Z-score analysis of financial performance is > 0.862 as seen in Table 12.

Table 12: Z-score analysis

|   | 2014       | 2015       | 2016       | 2017       |
|---|------------|------------|------------|------------|
| Current assets | 2,111,327 | 2,272,741 | 2,974,000 | 2,973,745 |
| Current liability | 2,518,521 | 2,439,014 | 2,566,354 | 2,610,824 |
| Working Capital | (407,014) | (166,273) | 407,651 | 362,921 |
| Total assets | 3,421,954 | 3,889,291 | 4,858,878 | 5,427,426 |
| A | -0.11 | -0.04 | 0.08 | 0.66 |
| Ebit | 1,850,546 | 2,244,821 | 3,532,666 | 2,395,300 |
| Total assets | 3,421,954 | 3,889,291 | 4,858,878 | 5,427,426 |
| B | 0.54 | 0.57 | 0.72 | 0.44 |
| Ebit | 1,850,546 | 2,244,821 | 3,532,666 | 2,395,300 |
| Current liability | 2,518,521 | 2,439,014 | 2,566,354 | 2,610,824 |
| C | 0.73 | 0.92 | 1.97 | 0.91 |
| Sales | 7,925,453 | 9,006,893 | 9,877,048 | 10,023,967 |
| Total assets | 3,421,954 | 3,889,291 | 4,858,878 | 5,427,426 |
| D | 2.31 | 2.31 | 2.03 | 1.84 |
The analysis result of z-score in Table 12 of financial performance condition from 2014 to 2017 where the z-score in this table is > 0.862, which means financial performance condition the company is good.

The Conclusion of this study is hypotheses test based on empirical data is proven to be good. There are three that are proven with are the ratio analysis result toward company financial performance is proven to be good, the stock analysis toward company financial performance is proven to be good, and the Z score analysis result toward company financial performance is proven to be good.

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| Z-Score (A+B+C+D) | Condition |
|-------------------|-----------|
| 3.67              | Good      |
| 3.84              | Good      |
| 4.2               | Good      |
| 3.25              | Good      |
