

## The Effect of Current Ratio, Debt to Equity Ratio, and Disclosure Carbon Emission on Net Profit Margin

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### ABSTRACT

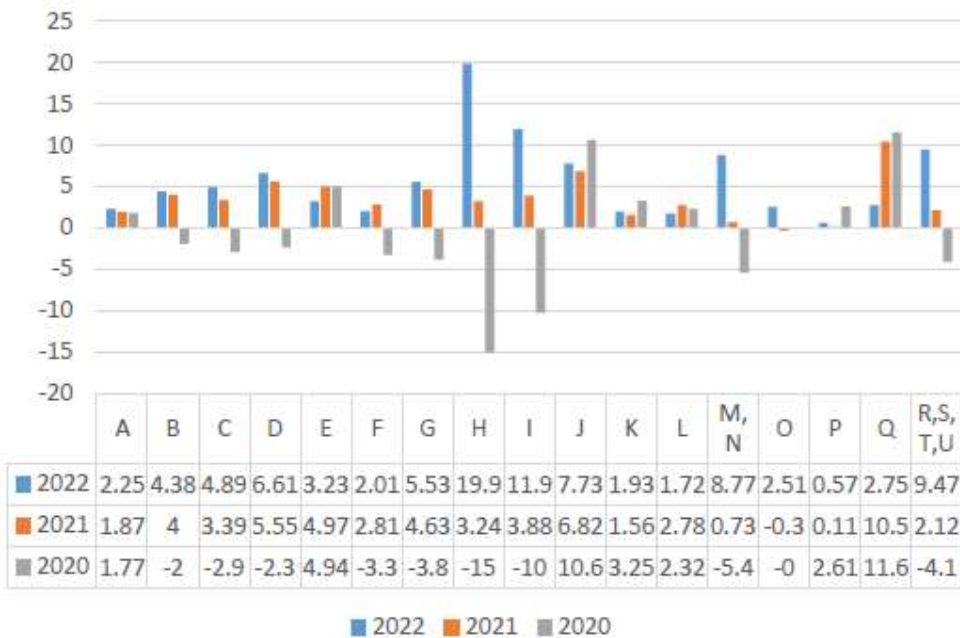
The aim of this research is to determine the effect of Current Ratio, Debt to Equity Ratio, and Disclosure Carbon Emission on Net Profit Margin. The data used is secondary data obtained from the Indonesian Stock Exchange (BEI) Share List. The dependent variable and independent variables in this study were measured using a ratio scale. The sample selection in this study used a sampling method and was analyzed using a multiple linear regression method. The number of samples selected for testing was 10 samples of Energy companies listed on the Indonesian Stock Exchange, which had successively published financial reports as of December 31 for the 2020-2022 period. The results of this study provide an explanation that (1) Current Ratio (CR) has a significant positive effect on Net Profit Margin (NPM), (2) Debt to Equity Ratio (DER) has no negative effect on Net Profit Margin (NPM), and (3) Disclosure Carbon emission do not have a negative effect on Net Profit Margin (NPM). (4) Current Ratio, Debt to Equity Ratio, and Disclosure Carbon Emission have a significant effect on Net Profit Margin.



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## INTRODUCTION

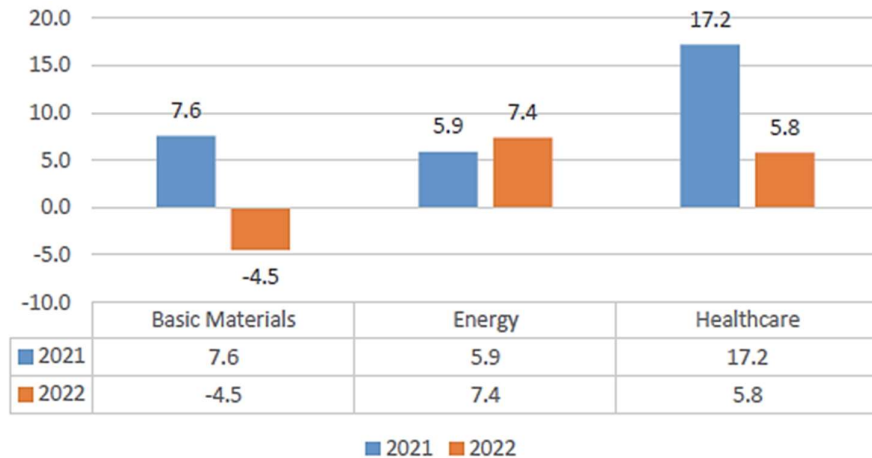
One of sector most influential industry in push growth Indonesia's economy is sector energy. A company focused on mining oil earth, natural gas, coal, and energy alternative known as company sector energy. Specifically, improvements production business and economic output a country as a whole overall is strongly influenced by sector energy. Remember that production process goods and services will always need support energy, growth economy will be highly dependent on availability adequate energy. According to the World Economic Forum (WEF, 2019), increasing energy consumption is closely related to economic growth. It is an important sector that plays a vital role in the economy. All businesses, from industry to households, need products from the energy sector to operate. Population growth and economic development are driving greater energy demand. To meet this demand, more energy companies are created or existing companies increase their production capacity. This economic growth is often accompanied by increases in industrial activity, infrastructure, and household consumption, all of which require more energy. Therefore, increasing GDP drives greater demand for energy, thereby encouraging growth in the number of energy companies to meet that demand.



Source: www.bps.com  
 Figure 1. GDP Growth Rate

The increase in production that occurred in energy companies during 2020 to 2022 means that more goods and services are produced, which directly adds to the total value of GDP. With an increase in Gross Domestic Product, it can be concluded that there is economic growth on a macro scale which cannot be separated from economic growth on a micro scale. Where this research will specifically make observations using data from energy companies listed on the Indonesia Stock Exchange (BEI). Companies listed on the IDX have more stakeholders who tend to focus on the company's financial performance, especially in terms of profit and loss. The relationship between increasing Gross Domestic Product (GDP) and net profit is related to how economic growth affects the business environment and company operations.

When GDP increases, it can reflect strong economic growth, which is usually accompanied by an increase in people's income and purchasing power. This can increase demand for the goods and services offered by the company, which in turn increases the company's revenue. Increased revenue, if followed by effective cost management, will increase net profit. Net profit is an important indicator of a company's financial health, indicating a company's operational efficiency and ability to generate profits. Net Profit Margin, on the other hand, is a financial ratio that shows the percentage of net profit to total revenue, giving an idea of what portion of each dollar of revenue is net profit. It is important to learn more about Net Profit Margin in Energy Companies in Indonesia because there are new energy and environmental policies where many countries are implementing new policies related to energy and the environment, where Indonesia has committed to Net Zero Emissions which will be implemented in 2060 and to realize this, the Carbon Tax will be implemented in 2025.



Source: www.bps.com  
 Figure 2. GDP Growth Rate

The graph shows changes in Net Profit Margin (NPM) from 2021 to 2022 for various industrial sectors. Net Profit Margin is a measure of profitability calculated by dividing net profit by total revenue, expressed as a percentage. The Basic Materials sector experienced a sharp decline from 7.6% in 2021 to -4.5% in 2022, which shows that this sector is facing major challenges such as increasing raw material costs or decreasing product selling prices. The Energy sector showed an increase in Net Profit Margin from 5.9% to 7.4%, indicating increased profitability driven by rising energy prices and better operational efficiency. In contrast, Healthcare saw a major decline from 17.2% to 5.8%, indicating challenges in the healthcare sector such as increasing operational costs or regulatory changes.

It is interesting to conduct research on Energy sector companies due to the increase in Net Profit Margin from 2021 to 2022 with a percentage of 5.9% to 7.4%, which illustrates the sector's ability to increase operational efficiency and take advantage of rising energy prices in facing dynamic market conditions. Overall, the higher the ratio value, the better the company's performance because it shows the company's ability to generate high profits from sales and control costs efficiently, so that company profits increase. A positive Net Profit Margin value indicates that the company is not experiencing losses.

According to (Ratih and Amelia, 2021), the greater the Net Profit Margin, the more productive the company's performance will be, so that it will increase investors' confidence in investing their capital in the company. With an increase in production at Energy Companies, the value of a company, which reflects its performance, will influence investors' perceptions of the company and its future prospects. If the value of the company increases, the company's share price increases, and for managers, the increase in value becomes a measure of the work the company has done. In this research, profitability is measured using Net Profit Margin. Net Profit Margin is a ratio used to measure a company's ability to generate net profits from sales made. A high level of profitability will attract investors to invest, because the company is able to utilize its resources to generate large profits, which in turn will provide higher dividends to shareholders.

Therefore, research on Net Profit Margin is very important for companies because Net Profit Margin provides an idea of how efficient the company is in generating profits from its operations. There are several factors that can affect Net Profit Margin. Companies must pay attention to several factors that can influence Net Profit Margin. Factors that can influence the Net Profit Margin in a company are the Current Ratio, Debt to Equity Ratio, and Disclosure Carbon Emission.

**LITERATURE REVIEW**

**Net Profit Margin**

This ratio can be used to measure a company's ability to generate net profits from sales made by the company. Net Profit Margin for each amount of net profit obtained by the company from sales

made. In this research, Net Profit Margin is formulated as follows (Weygandt et al., 2019). The stock beta regression equation is as follows (Adnyana, 2020):

$$\text{Net Profit Margin} = \frac{\text{Net Income}}{\text{Net Sales}}$$

**Current Ratio**

Current Ratio is one of the liquidity ratios. Liquidity is a ratio used to measure a company's ability to pay short-term liabilities with current assets. Current Ratio is what measures a company's ability to meet its short-term obligations that are due soon using the company's available current assets. According to Weygandt et al. (2019), Current Ratio (CR) has the following formula:

$$\text{Current Ratio} = \frac{\text{Current Asset}}{\text{Current Liabilities}}$$

**Debt to Equity Ratio**

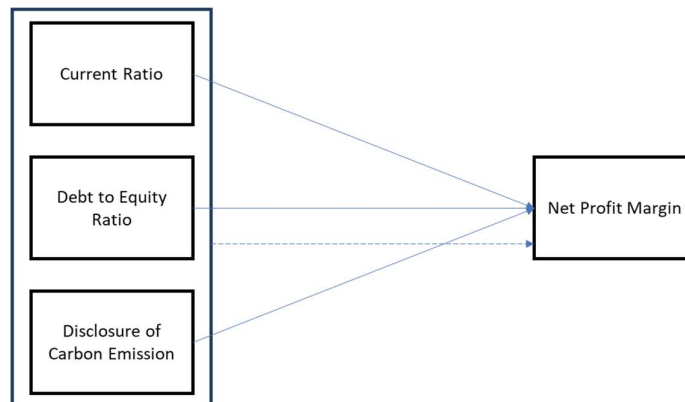
Debt to equity ratio (DER) is a solvency ratio used to compare the total debt a company has with its own capital. In order to measure risk, the focus of long-term creditors' attention is primarily on profit prospects and cash flow estimates. Nevertheless, they cannot ignore the importance of maintaining a balance between the proportion of assets funded by creditors and those funded by company owners. According to (Wahyu and Muhamad, 2023) the formula used to calculate the Debt to Equity Ratio (DER), is :

$$\text{Debt to Equity Ratio} = \frac{\text{Total Utang}}{\text{Total Modal}}$$

**Disclosure of Carbon Emission**

Disclosure of carbon emission is a description of the Company's efforts to reduce carbon emission, such as calculating the energy released, environmental costs, as well as Company regulations regarding energy use. Disclosure of carbon emission is included in the company's sustainability report. The Indonesian government is trying to reduce the negative impact of carbon emission through the enactment of the Tax Harmonization Law (HPP Law) Number 7 of 2021 by imposing a carbon tax on carbon-based products or activities that produce carbon emission. The implementation of a carbon tax is an effort to reduce carbon emission resulting from various community activities, especially the industrial and transportation sectors (Pratama et al., 2022). Disclosure of carbon emission is measured using a dummy variable where the item has a value of 1 for companies that disclose more information related to carbon emission through annual reports and sustainability reports, while a value of 0 is for companies that do not disclose carbon emission information (Saka and Oshika, 2014).

Based on study References can developed a research model as following:



**Figure 3**  
**Framework Thinking**

On thought this, then proposed hypothesis in study this is as following:  
 H1: Current ratio own influence positive to net profit margin  
 H2: Debt to equity ratio own influence negative to net profit margin  
 H3: Disclosure carbon emission have influence negative to net profit margin

**RESEARCH METHODS**

Study This discuss about influence current ratio, debt to equity ratio, and emissions carbon to net profit margin. Study This done through the data presented in report finance companies that have gone public for period 2020 until with 2022 already audited. Research methods used in study This is a causal study. Population in study This is companies The energy that was and still is listed on the Indonesian Stock Exchange (BEI) in the period 2020-2022. As for taking sample in study This use purposive sampling. The data used in this research is secondary data in the form of financial reports obtained from [www.idx.co.id](http://www.idx.co.id). The data collection technique in this research is documentation technique. The data analysis technique used in the research is multiple linear regression analysis with the help of the SPSS version 24 software program.

**RESULTS AND DISCUSSION**

**Test Assumptions Classic**

Testing assumption classic used in study this is one of them with the normality test. For test normality, research This using the Kolmogorov-Smirnov test. Normality test results served like following:

**Tabel 1**  
**Normality Test Results**  
**One-Sample Kolmogorov-Smirnov Test**

|                                  |                | Unstandardized Residual |
|----------------------------------|----------------|-------------------------|
| N                                |                | 28                      |
| Normal Parameters <sup>a,b</sup> | Mean           | ,0000000                |
|                                  | Std. Deviation | ,14705058               |
| Most Extreme Differences         | Absolute       | ,080                    |
|                                  | Positive       | ,080                    |
|                                  | Negative       | -,074                   |
| Test Statistic                   |                | ,080                    |
| Asymp. Sig. (2-tailed)           |                | ,200 <sup>c,d</sup>     |

- a. Test distribution is Normal.
  - b. Calculated from data.
  - c. Lilliefors Significance Correction.
  - d. This is a lower bound of the true significance.
- Source: Data Processing Results with SPSS 24 (2024)

Based on normality test results Kolmogorov-Smirnov, value significance 2-tailed is 0.200 which is more big from level significant 0.05 so stated data in study this distribute normally.

Then to test assumptions classic furthermore that is with multicollinearity test. Good regression model should no happen correlation between variable independent. As for the results testing multicollinearity can seen as following:

**Table 2**  
**Multicollinearity Test Results**  
**Coefficients <sup>a</sup>**

| Model |            | Collinearity Statistics |       |
|-------|------------|-------------------------|-------|
|       |            | Tolerance               | VIF   |
| 1     | (Constant) |                         |       |
|       | CR         | ,907                    | 1,103 |
|       | DER        | ,916                    | 1,092 |

|          |      |       |
|----------|------|-------|
| EMISSION | ,950 | 1,052 |
|----------|------|-------|

a. Dependent Variable: NPM

Source: Data Processing Results with SPSS 24 (2024)

Based on results in the table above, values tolerance more big of 0.1 as well mark Variance Inflation Factor (VIF) more small out of 10 who stated that No happen multicollinearity between independent variable, namely Current Ratio (CR), Debt to Equity Ratio (DER), and Disclosure Carbon Emission in the regression model.

And testing assumption classic final using a heteroscedasticity test, which was carried out with the Glejser test with regress each variable independent with absolute residual as variable dependent. As for the results testing heteroscedasticity like following this:

**Table 3**  
**Heteroscedasticity Test Results**  
**Coefficients<sup>a</sup>**

| Model |            | Unstandardized Coefficients |            | Standardized      | t     | Sig. |
|-------|------------|-----------------------------|------------|-------------------|-------|------|
|       |            | B                           | Std. Error | Coefficients Beta |       |      |
| 1     | (Constant) | ,092                        | ,040       |                   | 2,288 | ,031 |
|       | CR         | ,003                        | ,012       | ,061              | ,292  | ,773 |
|       | DER        | -,002                       | ,004       | -,107             | -,514 | ,612 |
|       | EMISSION   | ,030                        | ,041       | ,153              | ,745  | ,463 |

a. Dependent Variable: ABS\_RES

Source: Data Processing Results with SPSS 24 (2024)

From table the so can concluded mark significance obtained more big from 0.05. So that can said No happen heteroscedasticity between variable independent that is Current Ratio (CR), Debt to Equity Ratio (DER), and Disclosure Carbon Emission.

**Multiple Linear Regression Test**

Next, after is known that the data is distributed normally, then data analysis in this study can be continued by carrying out multiple linear regression analysis. Test results multiple linear regression presented in table 4 below This.

**Table 4**  
**Regression Test Results Multiple**

| Variables | Coefficient | Std. Error | t-Statistics | Prob. |
|-----------|-------------|------------|--------------|-------|
| C         | -,078       | ,069       | -1,134       | ,268  |
| CR        | ,083        | ,020       | 4,106        | ,000  |
| DER       | -,007       | ,007       | -,959        | ,347  |
| EMISSION  | ,110        | ,070       | 1,575        | ,128  |

Source : Data Processing Results with SPSS 24 (2024)

Based on the results of the regression output have been done in study this, then can create an equation model regression like following:

$$NPM = -0.078 + 0.083CR - 0.007DER + 0.110EMISSIONS + \epsilon$$

**Hypothesis testing**

Hypothesis testing is procedure testing will be produce something decision that is decision accept or reject hypothesis in something study. Testing hypothesis in study This using hypothesis testing in a way partial (t test), coefficient test determination (R<sup>2</sup>), and F test.

**T test (Testing Hypothesis Partial)**

t statistical test was used for know influence something variable independent individually in explain variation variable dependent (Ghozali, 2013). Criteria acceptance and rejection hypothesis based on value p-value significance.

- If the p-value (significance) is  $> 0.05$  then hypothesis study rejected
- If the p-value (significance)  $< 0.05$  then hypothesis study accepted

Based on results testing hypothesis partial (t test) in the previous table, then can with drawn conclusion:

1. Influence Current Ratio to Net Profit Margin  
Based on the table, it is obtained mark beta coefficient for variable current ratio of 0.083 with direction connection positive, p-value of  $0.000 < 0.05$ . Thus it can be concluded that current ratio influential significant to net profit margin.
2. Influence Debt to Equity Ratio to Net Profit Margin  
Based on the table, it is obtained mark beta coefficient variable debt to equity ratio of -0.007 and a p-value of  $0.347 > 0.05$ . With thereby can be concluded that debt to equity ratio No influential significant to net profit margin.
3. Influence Disclosure Carbon Emission Against Net Profit Margin  
Based on the table, it is obtained mark beta coefficient variable emission carbon of 0.110 and a p-value of  $0.128 > 0.05$ . With thereby can be concluded that emission carbon No influential significant to net profit margin.

**Coefficient Test Determination**

Coefficient test determination ( $R^2$ ) explains percentage total variation in variable dependents described in a way together.  $R^2$  describe size suitability (goodness of fit), namely until the extent of the regression line sample match existing data. The criteria is the more tall  $R^2$  value ( $R^2$  approaching 1) then the more good regression line the sample. Results of the coefficient of determination test in the research this as below:

**Table 5**  
**Coefficient Test Results Determination ( $R^2$ )**

|                   | <b>R-Squared</b> |
|-------------------|------------------|
| Net Profit Margin | 0.521 (52.1%)    |

Source: Data Processing Results with SPSS 24 (2024)

Based on Table 5 above, it is known coefficient test results determination in study this is n value R-square is amounting to 0.521, This show that 52.1% is variable net profit margin influenced by variables current ratio, debt to equity ratio, and emissions carbon, meanwhile the remaining 47.9% is influenced by other variables outside those studied.

**F Test (Simultaneous Hypothesis Testing)**

The F test (Simultaneous Test) is used to test whether together all the independent variables have a significant influence on the dependent variable. The F test results are presented in the following table:

**Table 6**  
**F Test Results**

|                   | F-statistic | Prob (F-statistic) |
|-------------------|-------------|--------------------|
| Net Profit Margin | 8,695       | 0,000              |

Source: Data Processing Results with SPSS 24 (2024)

Refer to the table above mark significant p-value of  $0.000 < 0.05$ , with statistical F value amounting to  $8,695 > 3,316$ . It means variable current ratio, debt to equity ratio, and emissions carbon in a way together own significant influence to net profit margin.

**Discussion**

Can be concluded that hypothesis First accepted with explained that current ratio (CR) has influence positive significant. The more tall current ratio (CR) shows that asset smoothly owned company more big compared to with obligation explained smoothly that company can pay off term debt short company. Besides that with exists difference between asset fluent with obligation fluent will show

exists working capital that can be obtained used by the company For do financing activity operational as well as can help in purchase supply For can for sale back, with do efficiency price principal sales and efficiency burden operational will can increase mark net income at the company. So that increase in net income from sale will increase net profit margin. This result in line with research conducted by Karnawi (2019) found that current ratio own influence significant to net profit margin.

More continue with the hypothesis second No can accepted which explains that debt to equity ratio (DER) has negative but no significant. When the company has a high DER, this means company own more lots of debt. This debt usually accompanied with burden flowers are a must paid in a way periodic. Interest expense This can reduce profit clean company, which in the end reduce NPM. However influence No significant here can caused by the strategy they have company to Excellent debt management, so they capable minimize burden interest and risk related to debt. So that in connection This even though DER is high impact against NPM you can minimized. In line with findings of Sudirman et al. (2020) who obtained results that debt to equity ratio (DER) has influence negative No significant to net profit margin.

For hypothesis third can concluded that emission carbon own influence positive and not significant to net profit margin. Influence No significant in study This caused by there there are more factors big towards NPM than emission carbon. This result in line with research conducted Qisthi et al. (2022) that emission carbon No influential significant to net profit margin.

## CONCLUSION

Study This test influence net profit margin, current ratio, debt to equity ratio, and emissions carbon. Research result show that the data is distributed normally and does not occur multicollinearity and heteroscedasticity. Hypothesis First in study This can accepted which explains that net profit margin has influence significant positive to net profit margin. Then For hypothesis second based on results study No can accepted, which explains that debt to equity ratio own influence negative No significant to net profit margin. And last hypothesis third based on results neither does research can accepted, which explains that emission carbon own influence positive No significant to net profit margin. Study This test influence net profit margin, current ratio, debt to equity ratio, and emissions carbon. Research result show that the data is distributed normally and does not occur multicollinearity and heteroscedasticity. Hypothesis First in study This can accepted which explains that net profit margin has influence significant positive to net profit margin. Then For hypothesis second based on results study No can accepted, which explains that debt to equity ratio own influence negative No significant to net profit margin. And last hypothesis third based on results neither does research can accepted, which explains that emission carbon own influence positive No significant to net profit margin.

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