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Financial Performance of Nickel Companies Before and after the Nickel Ore Export Ban Regulation

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Abstract*. We used a few financial ratios in this study: the price-earning ratio (PER), net profit margin (NPM), debt-to-equity ratio (DER), current ratio (CR), and economic ratio (ER). Our goal is to gather actual data regarding changes in the financial performance of nickel companies listed on the BEI before and after the implementation of Permen No. 11 in 2019 regarding the export restrictions of nickel ore. This is a quantitative study that uses SPSS and the Paired T-test method. The financial accounts of nickel companies serve as a secondary data source for our investigation.*

Keywords *: Cash Ratio, Net Profit Margin, Debt Equity Ratio, Economic Value Added, Price Earning Ratio*

1. INTRODUCTION

One of Indonesia's essential products is nickel. With up to 32.7% of global nickel reserves, Indonesia is among the nations with the biggest reserves in the world. The production of nickel reached 800,000 tons in 2019, according to the Ministry of Energy and Mineral Resources (ESDM). The government's issuance of Ministerial Regulation (Permen) ESDM Number 11 of 2019 regarding the prohibition of nickel ore exports, which went into effect in early 2020, is one step in Indonesia's ongoing efforts to become an advanced nation(Rahayu & Sugianto, 2020). The government's plan to accelerate the electric vehicle effort is in line with the acceleration of this export prohibition. Presidential Regulation No. 55 of 2019 on the Accelerated Implementation of Battery-Based Electric Motor Vehicle Programs for Road Transportation provides details on this program. The aforementioned context is the primary reason the researcher selected the nickel export prohibition rule as the study's focus, since it will significantly affect state revenue and the sustainability of government initiatives. Furthermore, since nickel shares are among the most sought-after by investors, information regarding the effects of this regulation's implementation will be necessary for many parties.

The government agrees through BKPM (Investment Coordinating Board) that the regulation to halt the export of raw nickel ore must be implemented immediately. This decision is a joint policy resulting from discussions between BKPM and nickel entrepreneurs. (Suhartono, 2019)The purpose of this regulation is to add value to the nickel ore products themselves. The price of processed nickel is much higher compared to the

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price of raw nickel. The government has provided smelters that companies can use to process their nickel products, and this will certainly have a positive impact on the income of nickel companies. (Suhartono, 2019) The policy to ban nickel ore exports was announced alongside the emergence of the COVID-19 pandemic, but in the research by Ditha, Ratih, and Reni, it was stated that there was no significant change in the Debt to Equity Ratio (DER) of mining companies post-COVID-19, meaning that COVID-19 did not affect the DER of mining companies, including nickel. In the 2022 study by Diat, it was stated that there was no significant change in the Current Ratio (CR) and Net Profit Margin (NPM) of mining companies post-COVID-19, meaning that there was no change in cash receipts and company profits after the pandemic.

This research was conducted based on the regulation prohibiting the export of nickel ore as stated in Regulation Number 11 of 2019. The implementation of this regulation began in early 2020 (Dewan Perwakilan Rakyat Republik Indonesia, 2022). Therefore, the researchers used financial statements from 2018 and 2019 as the years before the prohibition and 2020 and 2021 as the years after the prohibition was implemented. There are five variables in this study, namely CR, DER, NP, PER, and EVA. Unlike the research by which only used three variables, namely DER, ROA, and EVA. That research was also based on Government Regulation No. 1 of 2014.

2. LITERATURE REVIEW

Theoretical Framework

Ministerial Regulation (Permen) ESDM Number 11 of 2019
On September 2, 2019, a policy was issued regarding the prohibition of nickel ore exports with a content below 1.7%, which will come into effect on January 1, 2020. This regulation is outlined in Ministerial Regulation ESDM Number 11 of 2019, Article 62A, which states, "The recommendation of the Director General as referred to in Article 50, paragraph (2) for the sale of nickel with a content <1.7% (less than one point seven percent) to foreign countries: a. given to holders of Production Operation IUP before the enactment of this Ministerial Regulation, remains valid until the recommendation period ends or at the latest December 31, 2019; b. to be given to holders of Production Operation IUP after the enactment of this Ministerial Regulation, can be given with a period until at the latest December 31, 2019. Article II: This Ministerial Regulation comes into effect on January 1, 2022." (Menteri energi dan sumberdaya mineral republik Indonesia). According to the Director General of Minerals and Coal, Ministry of Energy and Mineral Resources, Gatot

Ariyono, the creation of this policy is intended so that smelters, especially nickel, can develop their construction and operate more quickly. The main background for the issuance of this policy is the limited resilience of nickel reserves. A reserve of 698 million tons can only guarantee the refining facility for 7.3 years, whereas around 42.67 years are needed. For that reason, the government is taking precautionary steps to ensure that the reserve life can meet the economic life of the smelter. Additionally, low-grade nickel is prioritized for use as a raw material for batteries in accordance with Presidential Regulation No. 55 of 2019 on the acceleration of the battery-based electric vehicle program (Pribadi, n.d.)

Definition of Financial Performance (Husnan, S., & Pudjiastuti, n.d.) argue that financial performance is a form of success and achievement of a company assessed from its work results (Performance outcome). Financial performance is a form of measurement to determine and serve as the basis for evaluating a company's success in generating profit. Information that can be used to review a company's financial performance includes the calculation of financial ratios over a period. (Munawir, 2016) argues that financial ratios are designed to facilitate the evaluation of financial statements. The definition of a financial ratio is a bond or comparison (mathematical relationship) between the amounts of financial data used.

a. Financial Ratio Analysis (Subramanyam, 2014) argues that one of the many analyses frequently used in finance is ratio calculation. (Kasmir, 2017) argues that financial ratio analysis is the process of comparing numerical data obtained from financial statements. The financial ratios that will be calculated to assist this research are liquidity ratios, solvency ratios, activity ratios, market ratios, and EVA.
   (a) Liquidity Ratio According to (Subramanyam, 2014), liquidity refers to the ability of an entity or community to meet its short-term obligations. One of the ratios that can represent liquidity ratios is the cash ratio. The cash ratio is a ratio that can be used to assess the amount of cash a company has available for debt repayment purposes. With the cash ratio, the cash position that can cover the company's short-term debt during that period can be seen. The cash ratio is referred to as the most liquid ratio compared to other ratios. The higher the value of this ratio indicates that the company's ability to settle short-term debts is also high. In practice, this ratio will affect the company's profitability.
   (b) Solvency Ratio According to (Subramanyam, 2014), solvency is based on a company's reliability to fund its long-term obligations. If the solvency ratio is

high, it means that to finance assets and equity, the company is utilizing a large amount of debt. This makes it difficult for the company to obtain loans due to concerns that the company is negligent and unable to cover its debts. One of the solvency ratios is the Debt to Equity Ratio. (DER).

(c) Profitability Ratios According to (Harahap, 2016)"Profitability reflects the company's ability to generate profit from all available capabilities and resources, such as sales activities, cash, and capital." One of the profitability ratios is the Net Profit Margin. The Net Profit Margin can measure the company's profitability in terms of sales after accounting for all income taxes and expenses. Each expert has a different understanding of the Net Profit Margin. Brigham and Houston (2013) argue that "Net Profit Margin is used to compare the value of the company's net profit with the company's sales."

(d) Market Value Ratio The market value ratio reflects the actual state of the market. The use of this ratio aims to review the situation to achieve significant profits from company. The ratio to represent market value is the Price Earnings Ratio (PER). According to (Kasmir, 2017), PER is usually used to see the value of a stock from a shareholder's perspective. By calculating PER, it can help predict the valuation of a stock's price. The higher the value, the greater the trust from investors.

(e) Economic Value Added (EVA)According to (Tunggal, 2018), EVA is a financial governance system whose purpose is to calculate the economic profit of a company or organization. It is stated that prosperity can be created if the company is able to finance all operating funds and capital funds (cost of capital). Economic Value Added is the difference between the amount of profit obtained in operations and the capital costs such as equity and the company's debt, which truly focuses on the return on capital.

b. Development of Hypotheses

H1: There is an increase in the cash ratio after the implementation of the nickel ore export ban regulation.

H2: There is a decrease in the debt equity ratio after the implementation of the nickel ore export ban regulation.

H3: There is an increase in the net profit margin after the implementation of the nickel ore export ban regulation.

H4: There is an increase in the price-earnings ratio after the implementation of the nickel ore export ban regulation.

H5: There is an increase in economic value added before and after the implementation of the nickel ore export ban regulation.

3. METHODS

Type of Research

Wilcoxon Signed Rank Test will be conducted in this study using SPSS. Quantitative methods will be used to analyze this research.

Population and Sample

All nickel companies that have been listed on the Indonesia Stock Exchange (IDX) and that publish quarterly reports in 2018-2021 are the population set to carry out this research. Quarterly reports were selected in this study due to the limited number of samples where there were only five companies that met the requirements. If using the annual report, the number of samples is only five samples per each period, but by using quarterly reports the number of samples is twenty samples per each research period. Researchers chose the nickel mining sector because nickel companies provide quarterly reports that are easily accessible. On the other hand, nickel mining companies are one of the dominant sectors supporting foreign exchange and state revenue in 2008 by 36% (Ministry of Energy and Mineral Resources, 2009 in Pertiwi 2011). The sampling selection technique is purposive sampling, the selection criteria include (a) nickel companies already listed on the IDX, (b) publishing quarterly company reports on the IDX website for the period 2018-2021.

Research Variables

This research variable is anything, even in a form that is diverse but synchronous with what the researcher decides to study so that information is produced and conclusions are drawn. The following are the variables that researchers will use:

a. Cash ratio

According to Munawir, the formula for Cash ratio is:

$$CR = \frac{cash + cash\ equivalent}{\text{Current Liabilities}}\ x\ 100\ \%$$

b. Debt to equity ratio

According to Subramanyam (2014) the Debt To Equity Ratio formula is:

$$DER = \frac{Total\ Liabilities}{\text{Owner's Equity}}\ x\ 100\ \%$$

c. Net Profit Margin

According to Harjito & martono (2018) the formula for the NPM ratio is :

$$NPM = \frac{Nett\ profit\ after\ tax}{Nett\ Sales}\ x\ 100\ \%$$

d. Price earning ratio

According to Kasmir (2016) the formula for PER is:

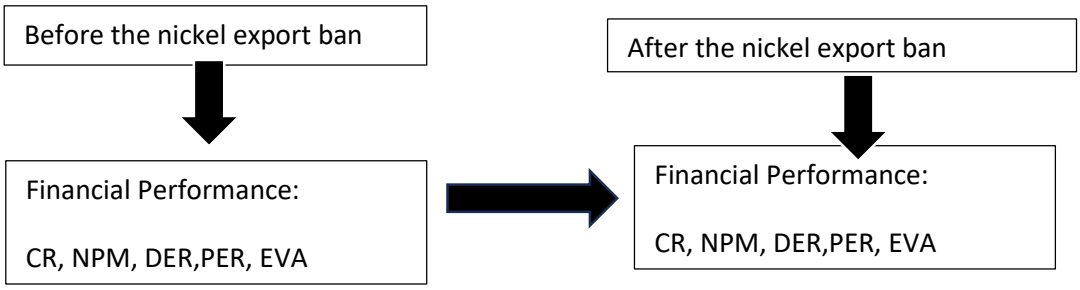
$$PER = \frac{Price\ stock}{EPS}$$

e. Economic value added

According to Rousana (2004) the formula for EVA is:

EVA = NOPAT - IC × WACC

Frame Work



Picture 1. Frame Work

4. RESULTS

1) In this study, researchers made Nickel companies that have been published on the Indonesia Stock Exchange since 2018-2021 as a population. There are 5 companies that have met the research criteria and have been confirmed to be used as samples in this study. The number of samples is 5 companies with 4 quarterly financial reports. So that the total sample is 20 financial statement data per year. The data source that can be used for research is data from the financial statements of Nickel companies. The results of his research are in the form of information about differences in financial performance both significantly and insignificantly before and after the Nickel ore export ban. In analyzing the method to be used is descriptive statistical test processed with SPSS version 25.

2) Descriptive statistics of the final results will provide an overview and will describe a data based on the range value, minimum value, maximum value, sum value, mean value, standard deviation and varience value. Below are the results of descriptive statistical tests on CR, DER, NPM, PER, and EVA variables in vulnerable Nickel companies for the 2018-2019 period in quarters 1, 2, 3 and 4.

Tabel 1. Results of Descriptive Statistical Test Before and after the Nickel Export Ban

Descriptive Statistics Before					
	N	Minimum	Maximum	Mean	Std. Deviation
CR_Before	40	0.01	7.24	1.5715	1.93581
DER_Before	40	0.02	1.72	0.5303	0.48266
NPM_Before	40	-8.05	7.65	-0.1230	2.29106
PER_Before	40	-139.64	133.75	11.9923	43.50917
EVA_Before	40	-202094937704	55868565967	-12174751130.25	44312383824.083
Descriptive Statistics After					
	N	Minimum	Maximum	Mean	Std. Deviation
CR_After	40	0.02	9.03	1.9505	2.40213
DER_After	40	0.10	5.25	0.8813	1.22181
NPM_After	40	-2.42	22.34	1.7168	4.16005
PER_After	40	-49.62	345.65	15.3650	63.09714
EVA_After	40	-421345124827	632554681	-48199573617	111165200182.09

The average value of CR for the two years prior to the implementation of the nickel ore export ban was 1.57 accompanied by a standard deviation value of 1.93. The result of a higher standard deviation than the average value explains that the variation or gap between the maximum and minimum values is very large. The average value of CR of 1.57 explains that the company is able to pay short-term debt with an average ability of 157 times or the amount of cash is 157 times greater than the amount of short-term debt. This value reflects that the average company has a high level of liquidity. The respective results for the maximum and minimum values are 7.24 and 0.01.

The average value of DER for the two years prior to the implementation of the nickel ore export ban was 0.53 accompanied by a standard deviation value of 0.48. The result of a higher standard deviation than the average value explains that the variation or

gap between the maximum and minimum values is very large. The average DER value of 0.53 explains that the average amount of debt to the company's equity is 53%, which means that 53% of the equity or capital owned by the company comes from outside. The respective results for the maximum and minimum values are 1.72 and 0.02.The average value of NPM for the two years before the implementation of the nickel ore export ban was -0.12 accompanied by a standard deviation value of 2.29. The result of a higher standard deviation than the average value explains that the variation or gap between the maximum and minimum values is very large. The average NPM value of -0.12 indicates that the company suffered a loss of -12% and was not good at managing existing resources. The minus average result of the company's NPM reflects that the company's ability to process existing resources to earn profits is not good. The respective results for the maximum and minimum values are 7.65 and -8.05.

The average value of PER for the two years prior to the implementation of the nickel ore export ban was 11.9 accompanied by a standard deviation value of 43.50. the standard deviation result which is higher than the average value explains that the variation or gap between the maximum and minimum values is very large. The average value of PER of 11.9 explains that the average share price is 11.9 times the amount of earnings per share. The respective results for the maximum and minimum values are 133.75 and -139.64.

The average value of EVA for the two years prior to the implementation of the nickel ore export ban was -12,174,751,130 accompanied by a standard deviation value of 44,312,383,824. The result of a higher standard deviation than the average value explains that the variation or gap between the maximum and minimum values is very large. The average EVA value of -12,174,751,130 indicates that the average economic loss of a company or organization in providing all operating funds and capital funds is -12,174,751. The result of a higher standard deviation than the average value explains that the variation or gap between the maximum and minimum values is very large. The respective results for the maximum and minimum values are 55,868,565,967 and -202,094,937,704.

The average value of CR for the two years after the implementation of the nickel ore export ban is 1.96 accompanied by a standard deviation value of 2.40. The result of a higher standard deviation than the average value explains that the variation or gap between the maximum and minimum values is very large. The average CR value of 1.96 indicates that the company is able to pay short-term debt with an average ability of 196 times or the amount of cash is 196 times greater than the amount of short-term debt. This value reflects

that on average the company has a high level of liquidity. While the maximum and minimum values are 9.03 and 0.02, respectively.

The average value of DER for the two years after the implementation of the nickel ore export ban is 0.88 accompanied by a standard deviation value of 1.22. The result of a higher standard deviation than the average value explains that the variation or gap between the maximum and minimum values is very large. The average DER value of 0.88 indicates that the average level of debt to company equity is 88%, which means that more than half of the company's equity is from loans. The respective results for the maximum and minimum values are 5.25 and 0.10.

The average value of NPM for the two years after the implementation of the nickel ore export ban is 1.71 accompanied by a standard deviation value of 2.29. The result of a higher standard deviation than the average value explains that the variation or gap between the maximum and minimum values is very large. The average NPM value of 1.71 indicates that the company's ability to earn profits through all existing capabilities and resources is 171%. The average result of the company's NPM reflects that the company's ability to process existing resources to earn profits is very good. The respective results for the maximum and minimum values are 22.34 and -2.42.

The average value of PER for the two years after the implementation of the nickel ore export ban is 15.36 accompanied by a standard deviation value of 63.09. The result of a higher standard deviation than the average value explains that the variation or gap between the maximum and minimum values is very large. The average value of PER of 15.36 indicates that the average share price is 15.36 times the amount of earnings per share. The respective results for the maximum and minimum values are 346 and -50.

The average value of EVA for the two years after the implementation of the nickel ore export ban was -48,199,573,617 accompanied by a standard deviation value of 111,165,200,182. The result of a higher standard deviation than the average value explains that the variation or gap between the maximum and minimum values is very large. The average EVA value of -48,199,573,617 indicates that the average economic loss of a company or organization in providing all operating funds and capital funds is -48,199,573,617. The resulting value is minus or <0 which reflects that the profit earned does not meet investor expectations, so there is no additional economic value in the company. The respective results for the maximum and minimum values are 632,554,681 and -421,345,124,827.

Data Analysis Prerequisite Test (Normality Test)

Normality test is a test used to obtain the results of data distribution in a variable that will be used to conduct research on normally distributed or non-normally distributed data. Data normality test can be known using the KoImogorov-smirnov test technique. The applicable criteria are if Asymp. Sig. (2-tailed) > 0.05 means the data is normal and vice versa (GhozaIi, 2011). The normality test in the study shows that all the variables tested have significance where the value is smaller than the specified significant standard (α = 0.05), so the test results can be concluded that the sample data on these variables are not normally distributed. The test used next is the Wilcoxon Signed Ranks Test.

Hypothesis testing with Wilcoxon Signed Ranks Test

Once it is known which testing mode is suitable for the data to be used, the next step that must be applied is hypothesis testing. Hypothesis testing is done to answer the formulation of the problem in this research. Hypothesis testing is done with the Wilcoxon Signed Ranks Test. If the asymp.sig value <0.05 then the change is significant or there is a change If the value is asymp.sig> 0.05 then the change is not significant, there is no change. The following are the results of hypothesis testing in this research:

Table 2. Wilcoxon Signed Ranks Test Results

Ranks		N	Mean Rank	Sum of Ranks	Asymp.Sig. (2-tailed)
CR_After -CR_Before	Negative Ranks	11	23.45	258	0.041
	Positive Ranks	29	19.38	562	
DER_After -DER_Before	Negative Ranks	22	14.45	318	0.216
	Positive Ranks	18	27.89	502	
NPM_After - NPM_Before	Negative Ranks	11	21.27	234	0.018

	Positive Ranks	29	20.21	586	
PER_After -PER_Before	Negative Ranks	26	20.69	538	0.085
	Positive Ranks	14	20.14	282	
EVA_After - EVA_Before	Negative Ranks	19	26.95	512	0.17
	Positive Ranks	21	14.67	308	

The definition of Negative ranks is the number of samples that have decreased after the implementation of the nickel ore export ban, Conversely Positive ranks are the number of samples that have increased after the Nickel ore export ban.

Hypothesis Test 1 (There is an increase in cash ratio after the implementation of the nickel ore export ban regulation.)

Hypothesis Test 2 (There is a decrease in Debt Equity Ratio after the implementation of the nickel ore export ban regulation.)

Hypothesis Test 3 (There is an increase in Net Profit Margin after the implementation of the nickel ore export ban regulation).

Hypothesis Test 4 (There is an increase in Price Earning Ratio after the implementation of the nickel ore export ban regulation).

Hypothesis Test 5 (There is an increase in Economic Value added after the implementation of the nickel ore export ban regulation).

5. DISCUSSION

From the analysis conducted, it can be seen in table 4.1 that the CR before and after are 1.57 and 1.96 respectively. The average CR has increased by 0.39 which explains that the company's financial performance is very good in getting cash after the nickel ore export ban. This increase was caused by several things including the increase in total nickel sales which had an impact on the increase in company cash. The increase in sales can be seen in the profit and loss statements of each company which increased after the ban, especially in the 2021 report. Another factor is the increasing amount of external funding as recorded in each company's cash flow report which causes the company's cash to increase.

The average DER of the company also increased, found that the DER before and after the ban was 0.53 and 0.88 respectively. The average DER has increased by 0.35 which explains that nickel companies add funds from external parties to run operations. The increase in the average DER was dominated by a very high increase in the total debt of the Central omega resorce Tbk company. Central omega resorce Tbk's debt increased because in 2020 the company focused on building its own smelter and will be completed in 2022 so that in 2020 and 2021 it requires a lot of funds where that year is also the year after the implementation of the nickel ore export ban in this study. The construction of the company's own smelter was triggered by the ban on the export of raw nickel ore which requires the company to process nickel in the form of finished or semi-finished goods so that it can be marketed abroad. With the smelter itself, the company can directly process the nickel from its mine without having to sell it to other companies that have smelters and will certainly increase the selling value of the nickel itself. In addition, the amount of external funding increased due to investors starting to be interested in investing in Indonesian nickel.

The average NPM of the company also increased, found the results of NPM before and after the ban were -0.12 and 1.71 respectively. The average NPM has increased by 1.83 which explains that the company's financial performance is very good in earning profits after the nickel ore export ban. After the ban, the company began processing nickel into semi-finished nickel or into final products so that it could still be marketed abroad. This caused the price of nickel to increase many times compared to when it was sold in raw form only. The drastic increase in profits occurred in 2021 because in that year 23 smelters were built and the government targets to build 53 smelters by 2024. Based on information submitted by President Joko Widodo, the profit that occurred after this ban was from the initial 15 trillion to 360 trillion

The average PER of the companies also experienced an increase. It was found that the PER before and after the ban were 11.90 and 15.36, respectively. The average PER increased by 3.46. The ban on nickel exports has caused the price of nickel commodities in the global futures market to rise, with one of the affected futures markets being the London Metal Exchange (LME). Indonesia is one of the largest nickel exporters in the world, so this ban has led to a decrease in nickel supply while demand continues to rise, causing nickel prices in the market to increase. This has triggered expectations among investors or market players that the price of nickel contracts on the London Metal Exchange (LME) will likely remain above US$ 14,000 per metric ton and could even reach

US$ 20,000 per metric ton. (Dwi Ayuningtyas, CNBC Indonesia). However, the distribution of stock price increases in the sample companies in this study is not uniform, with some showing negative price-earnings ratios, resulting in insignificant outcomes. The average EVA of the companies experienced a decline. The EVA before and after the ban was found to be -12,174,751 and -48,198,573, respectively. The average EVA decreased by 36,023,822 due to the increase in the amount of debt and interest that needed to be paid. From the data obtained from the financial reports of the four companies sampled in this study, their EVA increased and was above the standard EVA measurement, which is >0, at the end of 2021. This means that the value addition process in the companies has occurred and successfully created value for the fund providers. An EVA above 0 indicates that the value addition process in the companies has occurred and successfully created value for the fund providers. However, this increase did not happen for Central Omega Resource Tbk. The EVA of Central Omega Resource Tbk decreased from 2018-2021 due to a significant increase in the amount of debt and interest that Central Omega Resource Tbk had to pay, which affected the average EVA of the company both before and after the ban.

6. CONCLUSION

Based on the research conducted on nickel companies listed on the Indonesia Stock Exchange (IDX) from 2018 to 2021, several conclusions can be drawn. Among them, the results of the CR and NPM showed a significant increase after the ban on nickel ore exports, indicating that the financial performance of nickel companies in generating cash and profit, as seen from CR and NPM after the ban, is good. The DER and PER also experienced an increase, but not significantly, which means that the financial performance of the companies, as assessed by DER and PER after the ban, is less favorable. The company's EVA value decreased after the ban on nickel ore exports, indicating that the financial performance of the company in managing projects to add economic value is not good.

LIMITATION

In this study, there are several limitations, including that the source of the research objects is only those listed on the IDX, whereas using nickel companies listed on the OJK could provide a larger sample for the research. The conclusions drawn are based solely on financial

statements, making this research not fully reliable as a reference for external parties in drawing conclusions.

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