

## COMPARATIVE STUDY OF FINANCIAL PERFORMANCE AND MARKET PERFORMANCE IN COMPANIES THAT ARE COMMITTED TO ISO 14001 IN THE MINING SECTOR ON THE INDONESIA STOCK EXCHANGE 2009-2014

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#### ABSTRACT

This study examines the financial performance and market performance differences between companies certified to ISO 14001 and those not certified to ISO 14001. The management's environmental commitment is measured using the company's ownership of the ISO 14001 certificate. The financial performance is measured by using the Net Profit Margin (NPM), Debt to Equity Ratio (DER), and Return on Assets (ROA), while the market's performance is measured using the Price Earnings Ratio (PER) and the Market to-Book Value (MBV). The study population was a mining company listed on the Indonesia Stock Exchange 2009-2014, some 202 companies. The sampling method used was purposive sampling with criteria mining companies from 2009 to 2014, certified ISO 14001 and uncertified ISO 14001; present stock price information, the annual report, and financial statements are complete. Samples are 82 mining companies with a certificate of ISO 14001 and 96 mining companies that do not have a certificate of ISO 14001. Mechanical analysis of data from this study using independent sample t-test. The results showed that the mean financial performance and market performance of companies that are ISO 14001 is higher than those of companies not certified to ISO 14001. There are significant differences in the ratio of Net Profit Margin (NPM), Debt to Equity Ratio (DER), and Market to Book Value (MBV).

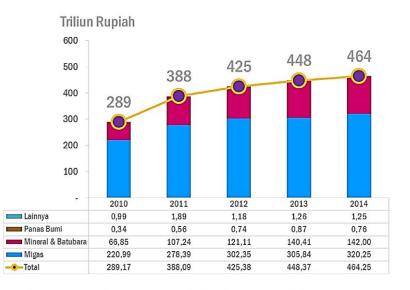
Keywords: ISO 14001, Net Profit Margin (NPM), Return on Assets (ROA), Debt Equity Ratio (DER), Price Earnings Ratio (PER), Market to Book Value (MBV).

#### INTRODUCTION

Based on data from the Kesdum Renstra (Strategic Plan of the Ministry of Energy and Mineral Resources), in Figure 1, it can be seen that in the last 5 years, investment in the Energy and Mineral Resources (ESDM) sector has increased by around 64%, from around US\$ 23 billion in 2014 to US\$ \$ 37 billion in 2014. The largest investment came from the oil and gas sector, which in 2014 reached US \$ 23 billion, followed by minerals and coal, electricity, and New Renewable Energy and Energy Conservation (EBTKE). Investment increased in line with improvements in business activities and legal certainty in the Energy and Mineral Resources (ESDM) sector. Ease of permits and availability of land are key factors in investment in the energy and mineral resources (ESDM) sector. Seeing the prospects for investment in Indonesia that are profitable in the future, there is a threat of danger to environmental sustainability, which needs to be balanced by implementing an effective environmental management system so that in the future, it will not violate, which will result in environmental damage in the future.



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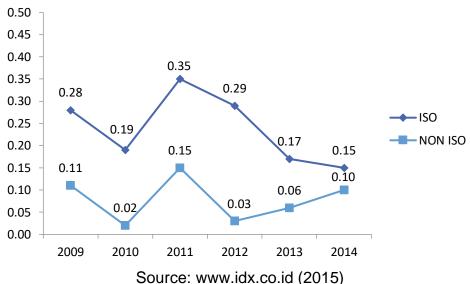
Source: Ministry of Energy and Mineral Resources Strategic Plan (2015) Figure 1: Indonesian EMR Sector Investment 2010-2014

In establishing and carrying out its business strategy, the company has general goals, namely profit, sustainability, growth, and corporate social responsibility. Besides that, the company must also be accountable for its "conventional" operating activities to shareholders. The cost-benefit of a company's operating activities is the main consideration to maximize profits.

In the era of environmental awareness, this certification is very important for a business or corporate entity to remain competitive in national and international markets. The certification process is carried out by a third party who is not involved in any way with the organization applying for certification. The certification organization, known as an auditor, will provide training, mentoring, and monitoring to ensure that the organization applying for certification recognizes and complies with management guidelines. ISO 14001 certification is proof of the feasibility of an organization, business, and manufacturing facility in demonstrating its responsibility towards the environment. This certification shows that an organization or business has dedicated its management system based on environmental awareness. Obtaining ISO 14001 certification will make the public, government, and potential customers appreciate a business entity more highly, ultimately leading to business progress.

Graph 1. Based on a graph of the company's financial performance from 2009 to 2014, companies that are certified to ISO 14001 have greater financial performance compared to companies that are not certified to ISO 14001, meaning that companies that are committed to implementing environmental management standards ISO 14001 are better because the implementation of the system can have a positive impact on company performance such as financial performance because the company commits to integrate and balance business interests with the environment.





# Graph 1: Company Financial Performance 2009-2014

Even though investment, production, and revenue data always increase from year to year in the mining sector, it turns out that there are still many mining companies implementing environmental management systems that do not have ISO 14001 certificates, so the average results of the company's financial performance and market performance are not good. Every company needs to be able to manage, manage and make the best use of the environment so that it is not only profitable and increases the business efficiency of each company but also sees environmental and social impacts in the future. The implementation of a good environmental management system in a company can have a positive impact on the company's sustainability.

The research objectives to be achieved are to find out the following:

- 1. To study the comparison (NPM) of the Net Profit Margin of ISO 14001-certified companies with non-ISO 14001-certified companies.
- 2. Reviewing the comparison (ROA) of Return On Assets of ISO 14001 certified companies with non-ISO 14001 certified companies.
- 3. Review the comparison (DER) of the Debt Equity Ratio of ISO 14001-certified companies with non-ISO 14001-certified companies.
- 4. Review the comparison (PER) of the Price Earnings Ratio of ISO 14001certified companies with non-ISO 14001-certified companies.
- 5. Studying the comparison (MBV) Market to Book Value of ISO 14001 certified companies with non-ISO 14001 certified companies

## Type/Design of Research

# METHODS

This type of research is comparative research, a comparative study. Aims to compare financial performance (Net Profit Margin, Return On Assets, Debt Equity Ratio), which has ISO 14001 certificate with Non-ISO 14001 certificate, and market performance (Price earnings ratio, market to book ratio) which has ISO 14001 certificate through data analysis in order to test the hypothesis.



#### **Operational Definition and Variable Measurement**

There are several variables to be tested in this study. The variables to be tested can be defined and measured as follows:

#### a. Net Profit Margin (NPM)

The ratio between net income, namely Profit Margin on Sales Profit Margin Ratio or profit margin on sales, is one of the ratios used to measure profit margin on sales. (Kasmir, 2010:199).

Net Profit Margin =

Net Profit After Tax

Sales

#### b. Return on Assets (ROA)

This ratio measures a company's ability to generate net income based on a certain level of assets. (Hanafi and Halim, 2012:8) The higher the ROA, the better the company's operations. Return on Assets (ROA) can be calculated using the following formula (Gitman, 2012; 81):

Return On Assets =

Debt Equity Ratio =

Net Profit After Tax

Total assets

## c. Debt Equity Ratio (DER)

According to Harahap (2013: 303), these ratios describe how much the owner's capital can cover debts to outsiders. The smaller this ratio, the better. Debt Equity Ratio (DER) This ratio is obtained by using the following formula (Kasmir, 2010:157);

**Total Liabilities** 

equity

## d. Price Earnings Ratio (PER)

The price-earnings ratio reflects the assessment of the company's future profits. This ratio is calculated by dividing the market price per share by earnings per share. How calculate the Price Earnings Ratio according to Gitman (2012: 82) is as follows;

P/E Ratio = Market price per share of common stock

Earnings per share

## e. Market to Book Ratio (MBV)

According to Sudana (2011: 171), a high market-to-book ratio shows investors' assessment or expectations of the company; the higher the ratio, the more the company is seen as having good prospects. How to calculate the marker-to-book ratio Gitman (2012; 83) formulates the ratio as follows:



Market Book Ratio =

Market price per share of common stock

Book value per share of common stock

## Population and Sample

The population in this study were all companies that obtained ISO 14001 series certification and did not have ISO 14001 series certification. The population was selected from companies with all mining sector industry classifications listed on the Indonesia Stock Exchange (IDX). This study uses the observation period from 2009 to 2014.

The sample is part of the population whose characteristics will be investigated and is representative of the population. The sampling technique was carried out in this study using purposive sampling using the following conditions:

- 1. Mining companies listed on the Indonesia Stock Exchange from 2009 to 2014.
- 2. Mining companies listed on the Indonesia Stock Exchange have obtained ISO 14001 certification and ISO 14001 non-certification from 2009 to 2014.
- 3. Presents stock information from 2009 to 2014.
- 4. Presents complete annual report information on financial reports on the Indonesian Stock Exchange.

Year	ISO 14001 Certified	Not ISO 14001 Certified
2009	10	11
2010	12	11
2011	15	17
2012	17	19
2013	15	17
2014	13	21
Total	82	96

#### Table 4.1 Number of Research Samples

Source: www.idx.co.id (2015)

## Data collection technique

Data collection techniques are tools used to obtain the data needed in research. The data collection method in this study came from library research. This library research is intended to obtain library data regarding theories related to the problem to be discussed.

In this study, the data collected is secondary data from data published by the Indonesian stock exchange annual reports and company financial reports. Data collection will be carried out for several research periods to follow the minimum number of observations in the research model analysis technique.

## Data Analysis Methods

## **1. Descriptive Group Statistics**

Descriptive statistics are used to determine financial performance, namely Return on Assets (ROA), Net Profit Margin (NPM) and Debt Equity Ratio (DER) then market performance, namely Market to Book Value (MBV) and Price Earnings Ratio (PER) in



mining companies that listed on the IDX. The measurements used in this study are max, min, mean, and standard deviation.

#### 2. Test i Independent Sample t Test

Independent sample t test is a test used to determine whether two unrelated samples have different averages (Ghozali, 2011; 64). Different test t Test is done by comparing the difference between the two average values with the standard error of the difference in the average of the two samples or the formula can be written as follows:

**RESULTS AND DISCUSSION** 

First sample mean - Second sample mean

t =

The standard error is the difference in the mean of the two samples

#### Results

#### a. Comparative Analysis of 2009-2014

•	Table 1. Group Statistics Descriptive 2009-2014									
	ISO14001	Ν	Max	Min	Mean	Std. Deviation	Std. Error Mean			
	ISO	82	.5100	8600	.0721	.17049	.01883			
NPM	NON- ISO	96	.9400	-9.1000	1688	1.14597	.11696			
	ISO	82	.3700	1700	.0748	.10895	.01203			
ROA	NON- ISO	96	.4600	2700	.0446	.11143	.01137			
	ISO	82	17,7500	.2000	2.1828	3.11901	.34444			
DER	NON- ISO	96	12.5300	-3.4800	1.1431	1.71725	.17527			
PER	ISO	82	138,1900	- 47.8400	17.4772	25.63085	2.83045			
FER	NON- ISO	96	168.3300	- 52.9800	19.4400	41.58336	4.24408			
	ISO	82	20.4100	.0500	2.7920	3.04373	.33612			
MBV	NON- ISO	96	12.0600	1500	2.1861	1.96011	.20005			

Source: SPSS 22.0 calculation results (2015)

Companies that have ISO 14001 certificates have an average (mean) Net Profit Margin (NPM) of 0.0721 which is greater than the average (mean) of mining companies that do not have an ISO 14001 certificate of -0.1688. Return On Assets (ROA) of companies certified to ISO 14001 have an average (mean) of 0.0748 which is greater than the average (mean) of mining companies that do not have an ISO 14001 certificate of 0.0446. De bt Equity Ratio (DER) ISO 14001 certified companies have of 2.1828 which is greater than the average (mean) of mining companies that do not have an ISO 14001 certificate of 1.1431. Rice Earning Ratio (PER) ISO 14001 certified companies have an average (mean) of 17.4772 smaller than the average



(mean) of mining companies that do not have an ISO 14001 certificate of 19.4400. Market To Book Ratio (MBV) Companies certified to ISO 14001 have an average (mean) of 2.7920 which is greater than the average (mean) of mining companies that do not have an ISO 14001 certificate of 2.1861.

		Levene's Equalit Varian	y of	t-test for Equality of Means					
		F	Sig.	t	df	Sig. (2-tailed			
	Equal variances assumed	9.576	.002	1.884	176	.06			
NPM	Equal variances not assumed			2.033	99.909	.04			
ROA	Equal variances assumed	.127	.722	1.819	176	.07			
	Equal variances not assumed			1.822	172.794	.07			
	Equal variances assumed	9.224	.003	2.807	176	.00			
DER	Equal variances not assumed			2.690	121.435	.00			
	Equal variances assumed	8.444	.004	371	176	.71			
PER	Equal variances not assumed			385	160.956	.70			
MBV	Equal variances assumed	5.616	.019	1.600	176	.11			
	Equal variances not assumed			1.549	134.193	.12			

#### b. Independent Sample t Test Result for 2009-2014

The calculation of the difference test of the two average data presented in Table 2; Net Profit Margin (NPM) shows equal variance not assumed that (0.045 < 0.050), meaning that there is a significant difference in Net Profit Margin (NPM) between



mining companies that are ISO 14001 certified and mining companies that are not ISO 14001 certified. Return On Assets (ROA) shows equal variance assumed that (0.071 > 0.050), meaning there is no significant differences in Return on Assets (ROA) between mining companies that are ISO 14001 certified and mining companies that are not ISO 14001 certified. Debt Equity Ratio (DER) shows equal variance not assumed that (0.008 < 0.050), it means that there is a significant difference in Debt Equity Ratio (DER) between mining companies that are ISO 14001 certified and mining companies that are not ISO 14001 certified. Price Earnings Ratio (PER) shows equal variance not assumed that (0.701 > 0.050), meaning that there is no significant difference in the Price Earning Ratio (PER) between mining companies that are ISO 14001 certified. Market To Book Ratio (MBV) shows equal variance not assumed that (0.124 > 0.050), it means that there is no significant difference in Market To Book Ratio (MBV) between mining companies that are not ISO 14001 certified. Market To Companies that are ISO 14001 certified and mining companies that are ISO 14001 certified. To Book Ratio (MBV) between mining companies that are not ISO 14001 certified. Market To Companies that are ISO 14001 certified and mining companies that are ISO 14001 certified. Market To Book Ratio (MBV) between mining companies that are ISO 14001 certified. Market To Book Ratio (MBV) between mining companies that are ISO 14001 certified.

Table 3. Group Statistics Descriptive 2009 - 2011									
	ISO14001	Ν	Max	Min	Means	std. Deviation	std. Error Means		
	ISO	37	.4300	8600	.0946	.19310	.03175		
NPM	NON- ISO	39	.3400	6000	.0536	.19734	.03160		
	ISO	37	.3700	1700	.1073	.12008	.01974		
ROA	NON- ISO	39	.4600	2200	.0731	.11581	.01854		
	iso	37	10.3300	.2100	1.8127	2.01378	.33106		
DER	NON- ISO	39	2,8300	.0300	.9977	.72516	.11612		
PER	iso	37	138,1900	- 15.4900	23.6670	26.99843	4.43851		
PER	NON- ISO	39	168.3300	- 50.3400	14.7826	36.31350	5.81481		
	ISO	37	20.4100	.6000	4.1873	3.82425	.62870		
MBV	NON- ISO	39	12.0600	.0000	2.4390	2.44641	.39174		

# c. Comparative Analysis The Golden Age of Mining

Source: SPSS 22.0 calculation results (2015)

Mining companies that have ISO 14001 certificates have an average (mean) net profit margin (NPM) of 0.0946 greater than the average (mean) of mining companies that do not have an ISO 14001 certificate of 0.0536. Return On Assets (ROA) Companies certified to ISO 14001 have an average (mean) of 0.1073 which is greater than the average (mean) Return on Assets (ROA) of mining companies that do not have an ISO 14001 certificate of 0.0731. De bt Equity Ratio (DER) which has an ISO 14001 certificate has an average (mean) of 1.8127 which is greater than the average (mean) debt equity ratio (DER) of mining companies that do not have an ISO 14001 certificate of 0.0731. De bt Equity Ratio (DER) which has an ISO 14001 certificate has an average (mean) of 1.8127 which is greater than the average (mean) debt equity ratio (DER) of mining companies that do not have an ISO 14001 certificate of 0, 9977 . Rice Earning Ratio (PER) has an average (mean) of 23.6670 greater than the average (mean) price earnings ratio (PER) of mining



companies that do not have an ISO 14001 certificate of 14.7826. Market To Book Ratio (MBV) has an average (mean) of 4.1873 which is greater than the average (mean) market to book ratio (MBV) of mining companies that do not have an ISO 14001 certificate of 2.4390.

		Equa	s Test for lity of ances	t-test fo	-test for Equality of Means		
		F	Sig.	t	df	Sig. (2- tailed)	
NPM	Equal variances assumed	.362	.549	.915	74	.363	
	Equal variances not assumed			.915	73.926	.363	
ROA	Equal variances assumed	.862	.356	1.265	74	.210	
Non	Equal variances not assumed			1.263	73.411	.210	
DER	Equal variances assumed	9.723	.003	2.371	74	.020	
DER	Equal variances not assumed			2.323	44.760	.025	
PER	Equal variances assumed	.367	.546	1.205	74	.232	
FER	Equal variances not assumed			1.215	70.072	.229	
MBV	Equal variances assumed	3.406	.069	2.387	74	.020	
	Equal variances not assumed			2.360	60.710	.021	

#### d. Independent Sample t Test The Golden Age of Mining for 2009-2011 Table 4 Independent Sample t Test for 2009-2011

Source: SPSS 22.0 calculation results (2015)

Difference test of the two average data presented in Table 4; Net Profit Margin (NPM) shows equal variance not assumed that (0.363 > 0.050), meaning that there is no significant difference in Net Profit Margin (NPM) between mining companies that are ISO 14001 certified and mining companies that are not ISO 14001 certified. Return On Assets (ROA) shows equal variance assumed that (0.210 > 0.050), meaning that there is no significant difference in Return on Assets (ROA) between mining companies that are ISO 14001 certified and mining companies that are not ISO 14001 certified. The Debt Equity Ratio (DER) shows equal variance not assumed that (0.025 <0.050), meaning that there is a significant difference in the Debt Equity Ratio (DER) between mining companies not certified to ISO 14001. The Price Earnings Ratio (PER) shows equal variance assumed that (0.232 > 0.050), meaning that there is no significant difference in the Price Earnings



Ratio (PER) between mining companies that are ISO 14001 certified and mining companies that are not ISO 14001 certified. Market To Book Ratio (MBV) shows equal variance assumed that (0.020 < 0.050), means there is a significant difference in Market To Book Ratio (MBV) between mining companies that are ISO 14001 certified and mining companies that are not ISO 14001 certified.

	Table 5. Group Statistics Descriptive 2012-2014									
	ISO14001	Ν	Max	Min	Means	std. Deviation	std. Error Means			
	ISO	45	.5100	4000	.0536	.14909	.02223			
NPM	NON- ISO	57	.9400	-9,1000	3209	1.46404	.19392			
	ISO	45	.2900	1600	.0480	.09182	.01369			
ROA	NON- ISO	57	.2900	2700	.0251	.10493	.01390			
	ISO	45	17,7500	.2000	2.4871	3.79221	.56531			
DER	NON- ISO	57	12.5300	-3.4800	1.2426	2.14966	.28473			
PER	ISO	45	100.6800	- 47.8400	12.3878	23.54300	3.50958			
	NON- ISO	57	162.7300	- 52.9800	22.6267	44.86834	5.94296			
	ISO	45	6.9800	.0500	1.6447	1.45102	.21631			
MBV	NON- ISO	57	6.5000	1500	2.0132	1.54323	.20441			

# e. Descriptive Comparative Analysis of Mining Crisis Period

Source: SPSS 22.0 calculation results (2015)

Mining companies that have ISO 14001 certificates have an average (mean) net profit margin (NPM) of 0.0536 greater than the average (mean) of mining companies that do not have an ISO 14001 certificate of -0.3209. Return On Assets (ROA) companies certified to ISO 14001 have an average (mean) of 0.0480 which is greater than the average (mean) Return on Assets (ROA) of mining companies that do not have an ISO 14001 certificate of 0.0251. De bt Equity Ratio (DER) that has ISO 14001 certificate has an average (mean) of 2.4871 which is greater than the average (mean) debt equity ratio (DER) of mining companies that do not have ISO 14001 certificate of 1. 2426. Rice Earning Ratio (PER) has an average (mean) of 12.3878 smaller than the average (mean) price earnings ratio (PER) of mining companies that do not have an ISO 14001 certificate of 22.6267. Market To Book Ratio (MBV) has an average (mean) of 1.6447 which is smaller than the average (mean) market to book ratio (MBV) of mining companies that do not have an ISO 14001 certificate of 2.0132.



		Levene's Te Equality Varianc	of	t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2- tailed)		
	Equal variances assumed	9.451	.003	1.707	100	.091		
NPM	Equal variances not assumed			1.918	57.468	.060		
ROA	Equal variances assumed	.246	.621	1.156	100	.250		
	Equal variances not assumed			1.175	98.901	.243		
	Equal variances assumed	5.358	.023	2.090	100	.039		
DER	Equal variances not assumed			1.966	65.827	.054		
PER	Equal variances assumed	13.163	.000	- 1.387	100	.169		
PER	Equal variances not assumed			- 1.483	88.215	.142		
MBV	Equal variances assumed	.658	.419	- 1.229	100	.222		
	Equal variances not assumed			- 1.238	96.935	.219		

#### f. Independent Sample t Test of Mining Crisis Period 2012-2014 Table 6. Independent Sample t Test for 2012-2014

Source: SPSS 22.0 calculation results (2015)

The calculation of the difference test of the two average data presented in Table 6; Net Profit Margin (NPM) shows equal variance assumed that (0.250 > 0.050), meaning that there is no significant difference in Return on Assets (ROA) between mining companies that are ISO 14001 certified and mining companies that are not ISO 14001 certified. Return On Assets (ROA) shows equal variance not assumed that (0.054 > 0.050), meaning that there is no significant difference in the Debt Equity Ratio (DER) between mining companies that are ISO 14001 certified and mining companies that are not ISO 14001 certified. The Debt Equity Ratio (DER) shows equal variance not assumed that (0.054 > 0.050), meaning that there is no significant difference in the Debt Equity Ratio (DER) between mining companies that are ISO 14001 certified and mining companies that are not ISO 14001 certified. The Price Earnings Ratio (PER) shows equal variance assumed that (0.169 > 0.050), meaning that there is no significant difference in Price Earnings Ratio (PER) between mining companies that are ISO 14001 certified and mining companies that are not ISO 14001 certified. Market To Book Ratio (MBV) shows equal variance assumed that (0.222 > 0.050), it means that there is no significant difference in Market To Book Ratio (MBV) between mining companies that are ISO 14001 certified and mining companies that are not ISO 14001 certified.



#### Discussion

Data processing research results of financial performance and market performance of mining companies that have ISO 14001 certificates compared to those that do not have ISO 14001 certificates in table 7 below:

Performance		014 year	C:m	Glory			Crisis		<b>C</b> :
	ISO	NON-ISO	Sig	ISO	NON-ISO	Sig	ISO	NON-ISO	Sig
NPM	.0721	1688	.044	.0946	.0536	.363	.0536	3209	.060
ROA	.0748	.0446	.070	.1073	.0731	.210	.0480	.0251	.250
DER	2.1828	1.1431	.008	1.8127	.9977	.025	2.4871	1.2426	.053
PER	17.4772	19.4400	.700	23.6670	14.7826	.232	12.3878	22.6267	.141
MBV	2.7920	2.1861	.123	4.1873	2.4390	.019	1.6447	2.0132	.221

## Table 7. Summary of Independent Sample t Test Results

Source: SPSS 22.0 calculation results (2015)

#### a. Comparative Financial Performance and Market Performance 2009 – 2014 ISO 14001 Certified Companies with Non-ISO

Based on the results of the overview presented in table 7, it is known that there are significant differences in financial performance between ISO 14001 certified companies and companies that are not ISO 14001 certified, namely Debt Equity Ratio (DER) and Net Profit Margin (NPM), for Return On Assets (ROA) ) no significant difference. There is no significant difference in the market performance of the Market to Book Ratio (MBV) and Price Earnings Ratio (PER) between ISO 14001 certified companies and companies that are not ISO 14001 certified.

companies have an impact on increasing the average (Mean) financial performance of Net Profit Margin (NPM), Debt Equity Ratio (DER), Return On Assets (ROA) compared to ISO 14001 certified companies. In terms of market performance, the Market to Book Ratio (MBV) of ISO 14001 certified companies has an impact on increasing the average (Mean) compared to companies that are not ISO 14001 certified except for the Price Earnings Ratio (PER).

The research results are also in accordance with the research of Burnett Royce D, Christopher J. Skousen, and Charlotte J. Wright. (2011). that the adoption of ISO 14001 eco-effective management results can improve company financial performance such as net sales, market value, return on assets, operating cash flow, debt equity ratio, and earnings before tax persist in the current accounting period but there is also no support from research Burnett Royce D, Christopher J. Skousen, and Charlotte J. Wright. (2011) that the adoption of ISO 14001 eco-effective management results that can improve the company's financial performance on variable price book value. Also supports the research of Lin, Yu Ling and Tzu Yar Liu. (2011) that certified companies in Taiwan generally have a significantly higher average difference in profit margin, return on assets, return on equity, than non-certified companies but do not support the variable price earnings ratio because the price earnings ratio this study decreased in companies that have ISO 14001 certificates. Not supported In Teng's research, May



Jane (2010) shows that certified companies generally have smaller average values for the variables MBV, ROA and ROE than non-certified companies.

#### b. Comparative of Financial Performance and Market Performance during the Golden Age Mining of ISO 14001 Certified Companies and Non-ISO

Based on the results of the overview presented in table 7, it is known that there are significant differences in financial performance between ISO 14001 certified companies and companies that are not ISO 14001 certified, namely the Debt Equity Ratio (DER), for Net Profit Margin (NPM) and Return On Assets (ROA) there is no significant difference. There is a significant difference in the market performance of the Market to Book Ratio (MBV). between ISO 14001 certified companies and non ISO 14001 certified companies and there is no significant difference in the Price Earnings Ratio (PER).

Companies have an impact on increasing the average (Mean) financial performance of Net Profit Margin (NPM), Debt Equity Ratio (DER), Return On Assets (ROA) compared to companies that are not ISO 14001 certified. The market performance of the Market to Book Ratio (MBV) and Price Earnings Ratio (PER) of ISO 14001 certified companies has an impact on increasing the average (Mean) compared to companies that are not ISO 14001 certified.

The research results are also in accordance with the research of Burnett, Royce D, Christopher J. Skousen, and Charlotte J. Wright. (2011) posits that the adoption of ISO 14001 eco-effective management results can improve the company's financial performance such as net sales, market value, price book value, return on assets, operating cash flow, Debt equity ratio, and earnings before tax that increase persists outside current accounting period. Also supports the research of Lin, Yu Ling and Tzu Yar Liu. (2011) that certified companies in Taiwan generally have a significantly higher average difference in profit margin, return on assets, return on equity, price earnings ratio than non-certified companies. Not supportive In Teng's research, Mei Jane (2010) shows that certified companies generally have smaller average values for MBV, ROA and ROE than non-certified companies.

#### c. Comparative of Financial Performance and Market Performance during the Mining Crisis of ISO 14001 Certified Companies and Non-ISO

Based on the results of the overview presented in table 7, it is known that there is no significant difference in the financial performance of the Debt Equity Ratio (DER), Net Profit Margin (NPM) and Return On Assets (ROA) between ISO 14001 certified companies and non ISO certified companies. 14001. There is no significant difference in the market performance of the Market to Book Ratio (MBV) and the Price Earnings Ratio (PER). between ISO 14001 certified companies and non-ISO 14001 certified companies.

Companies have an impact on increasing the average (Mean) financial performance of Net Profit Margin (NPM), Debt Equity Ratio (DER), Return On Assets (ROA) compared to companies that are not ISO 14001 certified. The market performance of the Market to Book Ratio (MBV) and Price Earnings Ratio (PER) of ISO 14001 certified companies has an impact on the average decrease (Mean) compared to companies that are not ISO 14001 certified.



This research supports the research of Burnett, Royce D, Christopher J. Skousen, and Charlotte J. Wright. (2011) that the adoption of ISO 14001 eco-effective management results can improve company financial performance such as net sales, market value, return on assets, operating cash flow, Debt equity ratio, and earnings before tax increase to survive outside the current accounting period but there is who do not support the research of Burnett, Royce D, Christopher J. Skousen, and Charlotte J. Wright. (2011) on the variable price book value posits that the adoption of ISO 14001 eco-effective management results in improving the company's financial performance that increases persist beyond the current accounting period. Also supports the research of Yu Ling and Tzu Yar Liu. (2011) that certified companies in Taiwan generally have a significantly higher average difference in profit margin, return on assets, return on equity than non-certified companies but does not support the results of the variable price earnings ratio decreasing in companies that certified. Also supports Teng's research, Mei Jane (2010) shows that certified companies generally have a smaller average value for MBV than certified companies.

#### CONCLUSION

Based on the research above, it can be concluded that:

- Companies that are ISO 14001 certified have a significantly higher average (mean) Net Profit Margin (NPM) compared to companies that are not ISO 14001 certified during the 2009-2014 period. In the heyday period of 2009-2011 companies certified to ISO 14001 had an average (mean) higher and not significant compared to companies that were not certified to ISO 14001. During the crisis period of 2012-2014 companies certified to ISO 14001 had an average (mean) is higher and not significant compared to companies that are not ISO 14001 certified.
- 2. Companies certified to ISO 14001 have an average (mean) Return on Assets (ROA) higher and not significant compared to companies that are not certified to ISO 14001 during the 2009-2014 period. In the heyday period of 2009-2011 companies certified to ISO 14001 had an average (mean) higher and not significant compared to companies that were not certified to ISO 14001. During the crisis period of 2012-2014 companies certified to ISO 14001 had an average (mean) is higher and not significant compared to companies that companies that are not ISO 14001 certified.
- 3. Companies certified to ISO 14001 have an average (mean) Debt Equity Ratio (DER) higher and significantly compared to companies that are not certified to ISO 14001 during the 2009-2014 period. During the heyday of 2009-2011, companies certified to ISO 14001 had a significantly higher average (mean) than companies that were not certified to ISO 14001. During the crisis period of 2012-2014, companies certified to ISO 14001 had an average (mean) is higher and not significant compared to companies that are not ISO 14001 certified.
- 4. Companies certified to ISO 14001 have an average (mean) Price Earnings Ratio (PER) higher and not significant compared to companies that are not certified to ISO 14001 during the 2009-2014 period. In the heyday period of 2009-2011 companies certified to ISO 14001 had an average (mean) higher and not significant compared to companies that were not certified to ISO 14001. During the crisis period of 2012-2014 companies certified to ISO 14001 had an average (mean) is lower and not significant compared to companies that are not ISO 14001 certified.



5. Companies that are ISO 14001 certified have an average (mean) Market to Book Ratio (MBV) that is higher and not significant compared to companies that are not ISO 14001 certified during the 2009-2014 period. During the heyday of 2009-2011, companies certified to ISO 14001 had a significantly higher average (mean) than companies that were not certified to ISO 14001. During the crisis period of 2012-2014, companies certified to ISO 14001 had an average (mean) is lower and not significant compared to companies that are not ISO 14001 certified.

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