

MANAGING THE FIRM ENVIRONMENTAL AND FINANCIAL PERFORMANCE: NEW INSIGHT FROM GOVERNMENT OWNERSHIP

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Abstract. This study aims to examine the relationship between environmental performance, government ownership, and corporate financial performance. This study consist of 151 companies that listed on the Indonesia Stock Exchange and followed the PROPER ranking held by the Indonesian Ministry of Environment from the period 2014-2017. This study uses evidence of state-owned enterprises that have not been much focused on research related to environmental and financial performance. In addition, this study also uses PROPER criteria for measuring environmental performance. This study found that environmental performance has a positive impact on financial performance in terms of three measurements, namely ROE, ROA, and TOBINS Q. Interestingly, this study found that companies with government ownership are negatively related to financial performance. This indicates that government ownership company is an extension of the government that does not focus primarily on financial performance but on sustainable environmental balance, so that whatever costs incurred are not a problem for the government as the majority shareholder as long as the expected goals are achieved. The results of this study provide implications for management of the companies about how environmental issues become important points that need to be considered to improve company performance. For the government, the results of this study can also be an input in making environmental management policies.

Key words: environmental performance, financial performance, government ownership, corporate management.

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Introduction

Awareness of the balance of a sustainable environment has increasingly grown and developed in the community. Environmental issues are one of the main topics discussed in the G20 Summit held in Osaka, Japan which helped bring this awareness to the international level. Supported by the commitment of world leaders to the Sustainability Development Goals, environmental balance is an integral element of the three elements. The government even encourages companies

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involved in industries with the highest contribution of carbon emissions to reduce their carbon emissions, one of which is by disclosing carbon emissions produced to the public (Nasih, et al., 2019). Several environmental-related cases such as PT Lapindo Brantas and Freeport Indonesia brought the company to a negative reputation in the community. Environmental issues can even cause a significant effect on stock prices, as in the case, the oil spill in the Gulf of Mexico by British Petroleum oil drilling company has impacted the company's stock price drop on Wall Street. In the end, environmental problems become a serious problem that needs to be monitored and prevented from stakeholders.

Research related to environmental issues is significant to do (Feng et al., 2018; Gatimbu, et al., 2018; Lee, Cin, & Lee, 2016; Utama & Mirhard, 2016). One of them is because the funds issued by the company for environmental management are not small, even the DPR through the Social Responsibility Bill plans to determine the number of funds that the company must issue at 2%, 2.5% or 3%. This condition certainly raises concerns from management that the funds spent are not comparable to the benefits received on business (Gallego-Álvarez, Segura, & Martínez-Ferrero, 2015; Khan, et al., 2020). Whereas, the orientation of the company is to maximize shareholder profits (Fuji, Halim, & Julizaerma, 2016; Valaskova, et al, 2018).

Previous research found environmental performance had a positive impact on financial performance (Lee et al., 2016; Song, Zhao, & Zeng, 2017; Nishitani K & Kokubu K., 2012; Russo & Fouts 1997). Concern for environmental issues can be a competitive advantage of a company among its competitors (Gallego-Álvarez et al., 2015). Environmental awareness can also boost the company's reputation both in the eyes of customers and employees (Porter & Kramer, 2011; Flammer, 2015).

This study tries to use environmental performance rating (PROPER) issued by the Indonesian Ministry of Environment in 2014-2017. PROPER can be followed voluntarily by industry so that it has an impact on the small number of research samples. This ranking then divides the company into five colour categories, namely gold, green, blue, red, and black which indicate the ranking of environmental management that has been carried out by the company and then associated with company performance through three measurements, namely ROE, ROA and TOBINS Q. The data is analysed using Stata 14 software that uses multiple linear regression methods found that environmental performance has a positive impact on the overall proxy measurement of financial performance.

In addition, this study tries to add company variables with government ownership. Government ownership company is an extension of the government not focusing primarily on financial performance but more on people's welfare (Chang, Li & Lu, 2015; Liu & Zhang 2017). Optimal environmental management to achieve sustainable environmental balance can be carried out without concern because government ownership company receives full support from the government as the

majority shareholder (Chen et al., 2014; Lazzarini, 2015; Musacchio, Lazzarini & Aguilera, 2015).

Literature Review

The relationship between environmental performance and financial performance has been much debated so as resulted in various literature result. One of them argues that improving environmental performance is an additional cost for companies that reduces profitability (Basuki & Irwanda, 2016). While others argue that improving environmental performance will encourage cost savings and increase income and financial performance (Pintea, Stanca, Achim & Pop, 2014). Empirical evidence regarding the positive relationship of perceived environmental performance to financial performance has been widely investigated (Lee et al., 2016; Song, Zhao, & Zeng, 2017; Nishitani K & Kokubu K., 2012; Russo & Fouts 1997). Sutopo (2018) found that companies that won the Sustainability Reporting Award (SRA) had EPS values and share prices higher than non-SRA companies. Ahmed et al. (2019) also explain that environmental, social and governance work is associated with higher financial performance (return on assets).

The positive relationship between environmental performance and financial performance can be explained through resource-based theory. Based on the nature of resource-based theories, companies that are able to maintain resources and develop capabilities ultimately gain a competitive advantage (increased productivity and efficiency) in facing environmental challenges (Siddique & Sciulli, 2018). Thus, the application of pollution prevention that focuses on processes, environmental efficiency to reduce waste can reduce environmental impacts while increasing company performance through cost reduction (Huang, Wong & Yang, 2014).

H1: Environmental performance is positively related to the company's financial performance

Scaringelli (2014) explains that environmental performance has a positive impact on company size and competitiveness and is strongly influenced by government behavior in implementing environmental policies. Companies with government ownership do not focus primarily on maximizing profits (Fan et al., 2007; Dvorský et al., 2020). As an extension of the government, community welfare is more important to be fulfilled by state-owned enterprise companies (Chang, Li & Lu, 2015; Liu & Zhang 2017). Thus, Government ownership plays one of them through high standard environmental management.

H2: Companies with government ownership focus more on sustainable environmental balance.

Method

Sample and Data Resource

The initial sample of this study are 173 companies listed on the Indonesia Stock Exchange and followed the PROPER ranking held by the Indonesian Ministry of Environment from the period 2014-2017. Data is then eliminated based on incompleteness, so there are 151 companies remaining and processed using Stata 14. PROPER could be followed voluntarily by industry so that it has an impact on the small number of research samples. The range of 2014 to 2017 is selected according to the availability of PROPER data.

Dependent Variable

This study uses financial performance (FP) as the dependent variable measured using three proxies namely ROE, ROA and Q TOBINS as well as previous studies (Lee et al., 2016). Financial performance data is obtained through the OSIRIS database.

Independent and Control Variables

This study uses PROPER as a proxy for measuring environmental performance. PROPER data is collected manually through the Ministry of Environment Decree and PROPER publications which can be accessed at the official website of the Ministry of Environment. PROPER classification and measurement are presented in the table below.

Table 1: PROPER Valuation Criteria

	SCORE	NOTE
GOLD	5	for businesses and / or activities that have consistently demonstrated environmental excellence in the production process or services, carrying out ethical and responsible business.
GREEN	4	for businesses and / or activities that have carried out environmental management more than required by regulations (beyond compliance) through the implementation of an environmental management system, efficient use of resources and good social responsibility efforts.
BLUE	3	for businesses and / or activities that have made environmental management efforts that are required in accordance with the applicable provisions or legislation.
RED	2	environmental management efforts carried out are not in accordance with the requirements as stipulated in the legislation.
BLACK	1	for businesses and / or activities that intentionally commit acts or commit negligence resulting in pollution or environmental damage as well as violations of applicable laws and regulations or not carrying out administrative sanctions.

Control variables used include SOE, SIZE, AGE, GROWTH and LEVERAGE. SOE, which is defined as the percentage share ownership by the government, is

obtained through data on shareholding structures that can be found on the Indonesian Capital Market Directory (ICMD). While other control variables SIZE, AGE, GROWTH and LEVERAGE were obtained from the OSIRIS database. SIZE or firm size is calculated through the natural logarithm of the total assets, the AGE or firm age is calculated through the natural logarithm of the age of the company (calculated from the year of its establishment). GROWTH or firm growth is calculated from sales growth. LEVERAGE is calculated from the total liabilities divided by total assets.

Results

Descriptive Statistic

Table 2 shows the distribution of samples by year from each colour of the PROPER rating. The number of samples throughout 2014-2017 is most commonly found in companies with blue ratings. The blue colour is described for companies that have made environmental management efforts that are required in accordance with the applicable provisions or laws and regulations. Or you could say the company is making efforts to manage the environment with the right dose according to regulations without any intention to be truly sincere in creating environmental welfare.

Table 2: Sample Distribution per-YEAR based on PROPER Ranking

	GOLD	GREEN	BLUE	RED	BLACK	Σ COMPANY
2014	2	6	29	0	0	37
2015	2	6	28	2	0	38
2016	1	8	28	0	0	37
2017	2	6	30	1	0	39
TOTAL	7	26	115	3	0	151

Table 3: Sample Distribution per-SIC based on PROPER Ranking

SI C	INDUSTRY	GOL D	GREE N	BLU E	RE D	BLAC K
0	Agriculture, Forestry, and Fishing	0	5	8	0	0
1	Mining and Construction	5	3	7	0	0
2	Manufacturing	0	10	64	1	0
3	Manufacturing	2	8	27	1	0
4	Transportation and Public Utilities	0	0	3	0	0
5	Wholesale and Retail Trade	0	0	3	0	0
6	Finance, Insurance and Real Estate	0	0	3	1	0
TOTAL		7	26	115	3	0

Table 3 shows the sample distribution based on the first digit of the SIC USA code. This classification code is used to classify companies by industry sector, and the first digit of SIC shows the company's main business line. In this study, the industrial sector which obtained the highest rating (GOLD) was seven companies. Five of them are companies in the mining and construction sector and the remaining two are in the manufacturing sector. More interesting when looking at the data in Table 4 where the five companies that won the highest ranking were companies with government ownership in them, the company was PT. Aneka Tambang (Persero) Tbk. and PT. Bukit Asam (Persero), Tbk. Two companies that have existing ratings in the manufacturing sector fall at PT. Holcim Indonesia, Tbk.

Table 4: Sample Distribution based on PROPER Ranking for SOE dan non-SOE Company

	<i>SOE</i>	<i>NON-SOE</i>
GOLD	5	2
GREEN	7	19
BLUE	14	101
RED	0	3
BLACK	0	0
TOTAL	26	125

At the lowest rating (BLACK) there is no company at all, this is because the company that sells its shares on the stock market avoids joining the rating if they feel they will not be able to reach a rating with a good level because it will affect their reputation. The blue color can be said as the minimum limit where the company has fulfilled the relevant provisions or legislation required. This ranking is mostly found in manufacturing sector companies. The percentage of SOE in this sector is only around 12%, which comes from the sub-section of medicines and cement.

The lowest value of the company performance variable measured through ROE and ROA shows a negative value that indicates a company that has a negative profit or experiences a loss. The company in this study sample has an average asset (ASSET) of 17 billion and a positive growth (GROWTH) of 0.058 per year. The average age of the company is 41 years or it can be said to almost touch half a century.

Table 5: Descriptive Statistics

	MEAN	MEDIAN	MINIMUM	MAXIMUM
<i>ROE</i>	14.442	10.180	-11.480	89.890
<i>ROA</i>	8.010	5.800	-8.090	35.620
<i>TOBINSQ</i>	0.216	0.094	0.004	1.977
<i>PROPER</i>	3.245	3.000	2.000	5.000
<i>SOE</i>	0.115	0.000	0.000	0.900
<i>SIZE</i>	17,240,000,00 0	10,780,000,000	464,900,000	86,790,000,000
<i>AGE</i>	41.901	39.000	5.000	116.000
<i>GROWTH</i>	0.058	0.050	-0.486	1.060
<i>LEVERAGE</i>	0.430	0.429	0.098	0.897

Firm Characteristic

Table 6 shows a comparison of the characteristics of SOE and non-SOE companies. The average PROPER rating produced by SOE companies is greater than non-SOE showing how SOE companies have more attention to sustainable environmental balance that is realized by optimal environmental management. SOE companies are also not worried about the costs incurred related to environmental preservation efforts as the SOE's company size is greater than non-SOE company.

Table 6: Firm Characteristics

	SOE	NON-SOE	t-value
<i>ROE</i>	10.335	15.296	-1.191
<i>ROA</i>	6.155	8.396	-1.157
<i>TOBINSQ</i>	0.188	0.222	-0.455
<i>PROPER</i>	3.654	3.160	4.281***
<i>SIZE</i>	23.503	22.667	2.895***
<i>AGE</i>	3.705	3.612	0.883
<i>GROWTH</i>	0.081	0.053	0.790
<i>LEVERAGE</i>	0.408	0.435	-0.692

Pearson Correlation

Pearson correlation test was conducted to find out how much a linear relationship between two random variables (real-valued vectors) (Zhou et al., 2016). Interesting from this study between SOE and PROPER ranking has a significant positive relationship.

Regression Result

There are two hypotheses tested in this study. The first hypothesis is that environmental performance is positively related to the company's financial performance which is shown through the following regression equation:

$$(H1) FP = \alpha + \beta_1 PROPER + \beta_2 SOE + \beta_3 SIZE + \beta_4 AGE + \beta_5 GROWTH + \beta_6 LEVERAGE + \varepsilon$$

The second hypothesis is that companies with government ownership (SOE) focus more on the balance of sustainable environment that is displayed through the following regression equation:

$$(H2) FP = \alpha + \beta_1 PROPER \times SOE + \beta_2 PROPER + \beta_3 SOE + \beta_4 SIZE + \beta_5 AGE + \beta_6 GROWTH + \beta_7 LEVERAGE + \varepsilon$$

Table 7: Multiple Linier Regression Result

	(1)	(2)	(3)	(4)	(5)	(6)
	ROE	ROA	TOBINSQ	ROE	ROA	TOBINSQ
<i>PROPERxSOE</i>				-8.992 (-0.80)	-2.026 (-0.40)	-0.439** (-2.25)
<i>PROPER</i>	8.161** (2.01)	3.846** (2.17)	0.118* (1.73)	10.261 (1.62)	4.319 (1.65)	0.221** (1.99)
<i>SOE</i>	-7.902* (-1.74)	-3.167 (-1.34)	0.039 (0.26)	20.903 (0.63)	3.324 (0.22)	1.444** (2.33)
<i>SIZE</i>	1.327 (1.07)	0.850 (1.41)	0.035* (1.73)	1.219 (0.97)	0.826 (1.35)	0.030 (1.48)
<i>AGE</i>	13.611*** (2.98)	5.694*** (2.99)	0.207** (2.52)	14.008*** (2.99)	5.783*** (2.95)	0.226*** (2.76)
<i>GROWTH</i>	-2.223 (-0.28)	0.074 (0.02)	-0.078 (-0.58)	-1.374 (-0.17)	0.265 (0.06)	-0.037 (-0.26)
<i>LEVERAGE</i>	5.068	-	-0.141	4.494	-	-0.169
Industry Dummies	Included	Included	Included	Included	Included	Included
Year Dummies	Included	Included	Included	Included	Included	Included
CONSTANT	-	-	-1.798**	-	-	-2.085***
	96.938*** (-2.69)	41.371** (-2.56)		102.807** (-2.60)	42.694** (-2.44)	
R-Squared	0.262	0.281	0.251	0.267	0.282	0.288
Number of Observation	151	151	151	151	151	151

t statistics in parentheses

* p < 0.1, ** p < 0.05, *** p < 0.01

The results of multiple linear regression in columns 1-3 of the three performance measurements used (ROE, ROA and TOBINS Q) all display positive results. This means that the first hypothesis, environmental performance is positively related to the company's financial performance is accepted. As explained in the nature of resource based theory, optimal environmental management indirectly provides a competitive advantage through increasing productivity and efficiency in facing environmental challenges. Pollution prevention behaviour, reducing waste in addition to reducing environmental impacts while increasing company performance through cost reduction.

The results of multiple linear regression then in columns 4-6 of the three performance measurements used (ROE, ROA and TOBINS Q) display negative results on Q TOBINS. This means that the second hypothesis, namely companies with government ownership (SOE) focus more on sustainable environmental balance is accepted. Companies with government ownership (SOE) whose shares are dominated by the government, of course, are more focused on the welfare of society than profit. High standard environmental management is one of the ways the government creates a sustainable environmental balance.

Discussion

The involvement of companies in environmental ranking activities is questioned when the resources expended by companies are not proportional to the increase in corporate profits. The PROPER ranking issued by the Ministry of Environment is not mandatory for all public companies. Some companies choose not to follow efficiency considerations because the involvement in environmental activities will increase the expense and reduce the profit (Basuki & Irwanda, 2016). The lack of company involvement in non-business activities is due to the Financial Services Authority (OJK) that has just emerged regulations relating to corporate social responsibility reporting (sustainability report) in 2016. Whereas the company's involvement in non-business activities has a positive impact on its business activities. The results of this study indicate that environmental performance is positively related to the company's financial performance. This is in line with Sutopo et al. (2018) that the company's participation in the SRA contributed to the EPS and EPS change of the winning companies. Lin et al. (2015) also found that companies actively involved in CSR would receive an award in the form of a higher level of government subsidies or a greater tendency to receive government subsidies in the future.

Interestingly, when we link the government ownership in environmental activities, we found that companies with government ownership focus more on sustainable environmental balance than on financial performance. This result in line with Indonesian Law number 19 of 2003 concerning state-owned companies, which stated that state-owned companies have an important role in managing the national economy in order to realize the welfare of society. State-owned companies will have better environmental performance, because the orientation is not just looking for profit like other companies (Chang, Li & Lu, 2015; Liu & Zhang 2017). Dewenter and Malatesta (2001) also show that state-owned companies have lower profitability than private companies, but provide better facilities for the surrounding environment and their employees.

Conclusions

Environmental performance has a positive impact on financial performance in terms of three measurements, namely ROE, ROA and TOBINS Q. Results that are

otherwise indicated by companies with government ownership. Government ownership company is an extension of the government not focusing primarily on financial performance but rather on sustainable environmental balance so that whatever costs incurred are not a problem for the government as the majority shareholder as long as the expected goals are achieved. The results of this study provide implications for management about how environmental issues become important points that need to be considered to improve company performance. For the government, the results of this study can also be an input in making environmental management policies.

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ZARZĄDZANIE FIRMA, WYDAJNOŚĆ ŚRODOWISKOWA I FINANSOWA: NOWY PUNKT WIDZENIA NA SPÓŁKI Z KAPITAŁEM PAŃSTWA

Streszczenie. Niniejsze badanie ma na celu zbadanie związku między efektywnością środowiskową, zgodną wytycznymi rządu i wynikami finansowymi przedsiębiorstw. Badanie to obejmuje 151 spółek notowanych na indonezyjskiej giełdzie papierów wartościowych i przestrzegających rankingu WŁAŚCIWEGO indonezyjskiego Ministerstwa Środowiska z okresu 2014–2017. W niniejszym badaniu wykorzystano dowody dotyczące przedsiębiorstw państwowych, które nie koncentrowały się zbyt mocno na badaniach związanych z wynikami środowiskowymi i finansowymi. Ponadto w tym badaniu zastosowano również PRAWIDŁOWE kryteria pomiaru efektywności środowiskowej. Badanie to wykazało, że efektywność środowiskowa ma pozytywny wpływ na wyniki finansowe pod względem trzech pomiarów, mianowicie ROE, ROA i TOBINS Q. Co ciekawe, badanie to wykazało, że firmy posiadające własność rządową są negatywnie powiązane z wynikami finansowymi. Wskazuje to, że spółka będąca własnością państwa jest przedłużeniem rządu, który nie koncentruje się przede wszystkim na wynikach finansowych, ale na zrównoważonej równowadze środowiskowej, tak więc wszelkie poniesione koszty nie stanowią problemu dla rządu jako większościowego akcjonariusza, o ile osiągnęte są oczekiwane cele. Wyniki tego badania dostarczają implikacje dla kierownictwa firm dotyczące tego, w jaki sposób kwestie środowiskowe stają się ważnymi punktami, które należy wziąć pod uwagę w celu poprawy wyników firmy. Dla rządu wyniki tego badania mogą również stanowić wkład w tworzenie polityk zarządzania środowiskiem.

Słowa kluczowe: efektywność środowiskowa, efektywność finansowa, własność rządowa, zarządzanie przedsiębiorstwem

管理公司的环境和财务绩效:政府所有权带来的新洞察力

抽象。这项研究旨在检验环境绩效、政府所有权和公司财务绩效之间的关系。这项研究由151家在印尼证券交易所上市的公司组成，这些公司遵循了2014-

2017年以来印尼环境部所持有的PROPER排名。这项研究使用了国有企业的证据，而这些企业并没有非常关注与环境和财务绩效相关的研究。此外，本研究还使用正确的标准来衡量环境绩效。这项研究发现，环境绩效从三个指标(即ROE, ROA和TOBINSQ)方面对财务绩效产生积极影响。有趣的是，该研究发现，拥有政府所有权的公司与财务绩效负相关。这表明政府所有制公司是政府的延伸，它不主要关注财务绩效，而是关注可持续的环境平衡，因此，只要实现预期目标，作为大股东，政府产生的任何成本都不是问题。

。这项研究的结果为公司管理人员带来了影响，即环境问题如何成为需要考虑的重要方面，以提高公司绩效。对于政府而言，这项研究的结果也可以作为制定环境管理政策的依据。

关键词:环境绩效, 财务绩效, 政府所有权, 企业管理。