第 48 卷 第 7 期
2021 年 7 月

湖南大学学报（自然科学版）
Journal of Hunan University（Natural Sciences）

Vol. 48. No. 7.
July 2021

Open Access Article

The Impact of Profitability on Firm Value: Does Environmental Performance Play a Mediation Role?

Yulita Setiawanta[1], St. Dwiarso Utomo[1], Imang Dapit Pamungkas[1], Jumanto[2], Luluk Muhimatul Ifada[3]

[1] Faculty of Economics and Business, University of Dian Nuswantoro, Semarang, Indonesia

[2] Faculty of Humanities, University of Dian Nuswantoro, Semarang, Indonesia

[3] Faculty of Economics and Business, Universitas Islam Sultan Agung, Semarang, Indonesia

Abstract: This study aims to determine whether environmental performance, which is proxied by greenhouse gas emissions, can mediate the effect of financial performance on the profitability of firm value. The research data on the three factors are then analyzed. This research is necessary to be conducted within the slowing economic circumstances due to the COVID-19 virus pandemic currently, which has been sweeping the world. The research data with purposive sampling are the companies indexed by the Sri-Kehati Indonesian stock exchange in a row from 2016 to 2019. The data that met the criteria were processed using the Smart-PLS version 3.29 statistical application. The results showed that profitability of financial performance had a significant positive effect on firm value but a negative effect on greenhouse gas emissions as a proxy for environmental performance. Greenhouse gas emissions had a significant negative impact on firm value, but they had proven to significantly mediate the effect of financial performance on the profitability of firm value.

Keywords: financial performance, profitability, greenhouse gas emissions, environment, firm value.

盈利能力對公司價值的影響：環境績效是否起到中介作用？

摘要：本研究旨在確定以溫室氣體排放為代表的環境績效是否可以調節財務績效對公司價值盈利能力的影響。然後對這三個因素的研究數據進行分析。由於目前席捲全球的新冠肺炎病毒大流行，在經濟放緩的情況下進行這項研究是必要的。有目的抽樣的研究數據是2016年至2019年連續被斯里克哈提印尼證券交易所索引的公司。符合標準的數據使用智能PLS 3.29版統計應用進行處理。結果表明，財務績效的盈利能力對公司價值有顯著的積極影響，但對作為環境績效代理的溫室氣體排放有負面影響。溫室氣體排放對公司價值有顯著的負面影響，但已證明它們顯著調節了財務業績對公司價值盈利能力的影響。

关键词：財務業績、盈利能力、溫室氣體排放、环境、公司價值。

1. Introduction

The issue of firm value as proxied by the stock price or Tobin's q becomes interesting to research by considering the phenomenon of fluctuating stock prices. This phenomenon has an exciting role due to the reaction of investors' optimistic or pessimistic attitudes to the information reported by companies [1]. When the stock price or Tobin's q increases, logically, investors have reacted positively to the company's perspective information to the public. Various pieces of information, both financial and non-financial, such as company policies, will be responded to by investors on the stock exchange floor. It is seen as the fluctuation of the company's value on the trading floor [2]. Investors' positive response as a sign of signal theory fulfillment was confirmed and supported by research conducted by [3]. They found a significant positive effect of financial performance as proxied by profitability on firm value [4]. Likewise, Ratri and Devi [5] found a significant

Received: April 6, 2021 / Revised: May 4, 2021 / Accepted: June 8, 2021 / Published: July 31, 2021

About the authors: Yulita Setiawanta, St. Dwiarso Utomo, Imang Dapit Pamungkas, Faculty of Economics and Business, University of Dian Nuswantoro, Semarang, Indonesia; Jumanto, Faculty of Humanities, University of Dian Nuswantoro, Semarang, Indonesia; Luluk Muhimatul Ifada, Faculty of Economics and Business, Universitas Islam Sultan Agung, Semarang, Indonesia

positive impact of economic performance (ROA) on firm value (Tobin's q) in companies in the Jakarta Islamic Index (JII).

On the other hand, it is found that financial performance information harms firm value as the results of the research found by [6] for food and beverage companies in Turkey. That financial performance (ROE, ROA, and NPM) has a significant negative effect on firm value (owner equity). The same result was found by [7]; likewise [8], who found a significant negative impact of financial performance (ROA and ROE) on firm value (Tobin's q) in public companies in Nigeria.

The author of the book and accounting scientist [9] investigated whether there has been deterioration in financial statements' relevance as input for equity investor investment decisions. Today's investors also need more information, such as non-financial information relevant to valuable activities and support sustainability [10]. It is the primary concern of the company's stakeholders [11]. This view becomes empirical literacy for the hypothesis of the effect of financial performance on the environmental performance that if bad (good) financial performance will correlate with a decrease (increase) in ecological performance [12]. This statement is proven empirically based on previous studies such as [13] and [14]. Likewise, public companies listing in Australia (ASX) from 2008-2010 was also found by [15].

The public's increasing awareness is increasingly felt when many companies start reporting environmental issues related to their commercial activities more openly to their stakeholders [16]. Filbeck and Gorman [12] stated that business actors are beginning to think in a more progressive and proactive direction towards changing times that should have been done so that the business's continuity is more open and secure and benefits increasing firm value [4]. Several research results have been conducted and show evidence of a positive effect of environmental performance on firm value. Nagayama and Takeda [17] found a positive impact on Japan's industry between environmental performance as proxied by ecological research and development (R&D) and firm value as proxied by stock prices. The same result was found by Lorraine, Collison, and Power [18] and Al-Tuwaijri, Christensen, and Hughes [19]. Research Jacobs, Singhal, and Subramanian [20] found that investors reacted positively to company shares announced in the Corporate Environment Initiatives (CEI), which provide information on self-reported corporate efforts to avoid, mitigate, or offset company products' environmental impact, services or processes. Yadav, Han, and Rho [21] examining the effect of environmental performance on the corporate value in 2012 for large US companies. Investors considered the announcement to be positive news, leading to a significant standard cumulative abnormal positive (SCAR) result.

Based on a review of previous research results, it has been described that the positive significant direct effect between financial performance on environmental performance, environmental performance on firm value, and the inconsistent influence between economic performance and firm value. These findings indicate that environmental performance can reasonably mediate the effect of financial performance on firm value. Environmental performance is formulated as a mediating variable because, according to Iatridis [22], investors and stakeholders positively react to the company's financial performance and environmental performance capabilities as part of achieving corporate value. The influence between ecological performance on firm value is carried out directly and the effect of financial performance on environmental performance, all of which show significant positive results.

Novelty in this study puts the indirect effect of financial performance as proxied by profitability on firm value, proxied by Tobin's q through a mediating variable for environmental performance proxied by reports of greenhouse gas emissions. What if ecological performance can further strengthen the effect of financial performance on firm value or even not at all. It is interesting because some of the research data taken are in the 2019 reporting year, reported until the end of April 2020, which is experiencing a Covid-19 virus pandemic. Early 2020, as known, has been large-scale social restrictions or lockdowns in several parts of the world. This study's population is even more impressive because of companies indexed by Sri-Kehati on the Indonesian Stock Exchange (IDX). Companies included in this index have gone through a rigorous selection with one of the criteria for a green company or to comply with the Republic of Indonesia's government's environmental regulations.

2. Methods/Materials

2.1. Signaling Theory and Legitimacy Theory

Signaling theory helps describe the behavior when two parties (individuals or organizations) have access to different information. Typically, one party, the sender, must choose whether and how to communicate (or signal) the data, and the other party, the receiver, must decide how to interpret the signal [23]. Complete, relevant, accurate, and timely information is needed by investors (prospective owners or even shareholders) in the capital market as an analytical tool for making investment decisions. Signal theory is concerned with efforts to reduce information asymmetry between two parties. For example, Spence [24] describes the labor market and shows how job applicants can engage in behavior to reduce information asymmetry that hinders prospective employers' selection ability. These signals are expected to be received positively by the market to influence the company's market performance, as reflected in the market price of the company's shares [25].

Legitimacy's meaning can consider as equating to the perception or assumption that the actions taken by an entity are actions that will desire, appropriate, or following a socially developed system of norms, values, beliefs, and definitions [26]. This theory's rationale is that the organization or company will continue to exist if society realizes that the organization operates for a value system commensurate with the community's value system. According to Dowling and Pfeffer [27], Legitimacy is an organizational effort that seeks to establish a congruence between social values related to or implied in their activities and acceptable norms of behavior in the more extensive social system of which they are apart. Insofar as these two value systems are congruent, we can speak of organizational Legitimacy. The basis of the theory of Legitimacy is a "social contract" between companies and communities. If the city is dissatisfied with its attitude and Legitimacy, the organization can withdraw the social contract and threaten the continuity of its operations. It can be said that there is a direct influence between social and environmental reporting and company legitimacy [28].

2.2. Profitability on Greenhouse Gas Emissions and Firm Value

Companies with high profitability can bear all operational costs incurred [29] and the costs associated with environmental disclosure [30]. Such reporting keeps investors well informed and more voluntary than companies that do not disclose [31]. It is in line with the Signaling theory, which states the importance of companies' information for outside investment decisions [23]. This information has the effect of increasing the company's value on the trading floor, as found by [32]. Similar research results found that financial performance (profitability) influences firm value [3]. Based on this explanation, the following hypothesis can be formulated:

H_1: Profitability has a positive effect on firm value.

Companies with excellent environmental performance are more motivated to retain their investors and stakeholders. It is confirmed by expanding voluntary disclosure compared to firms with poor environmental performance [33]. Other studies also determine the positive influence between financial performance profitability on ecological exposures (greenhouse gas emissions) [22] and [34]. Companies with excellent environmental performance (greenhouse gas emissions) tend to disclose substantial, verifiable, and challenge replicating information. Companies, including disclosures in sustainability reports, carry out information for measuring environmental performance. They also have incentives or more informative disclosure forms to prepare more extended and objective disclosures [14]. Based on this explanation, the following hypothesis can be formulated:

H_2: Profitability positively affects greenhouse gas emissions.

2.3. Greenhouse Gas Emissions and Profitability on Firm Value

Environmental disclosure requires actual high costs. Therefore, only profitable companies can bear these costs [30]. The disclosure's impact will attract investors' attention to invest so that its value will also be affected [35]. The revelation of information is relevant to signal theory, which shows that companies disclose environmental problems and send signals proactively to shareholders and other stakeholders [33]. Likewise, for each segment of the company's social action, it is possible to influence each social action factor and company performance [35], which will impact the creation of value of the company itself in the market. Nagayama and Takeda [17] found that news about environmental research and development (R&D) positively impacted stock prices. Kassin is and Soterou [36] showed that environmental practices positively affect organizational performance. Lorraine, Collison, and Power [18] look at the publicity about ecological pollution and praise about achieving an excellent environment to see if the information affects stock prices. Based on this explanation, the following hypothesis can be formulated:

H_3: Greenhouse gas emissions have a positive effect on firm value

If companies aim to increase their share price, management can use environmental and social responsibility reports to attract investors [37]. The previous hypothesis reveals the positive impact of profitability on greenhouse gas emissions and the positive effects of greenhouse gas emissions on its market value. Therefore, in terms of profitability affecting firm value, greenhouse gas emissions are required as a mediating variable. Based on this explanation, the following hypothesis can be formulated:

H_4: Greenhouse gas emissions can mediate the effect of profitability on Firm Value.

2.4. Method

The data in this study use panel data. This research's data type is secondary data, which means that the sources of research data are obtained through intermediary media or indirectly in books, notes, existing evidence, or archives, both published and not generally published. This study's sources of data come from annual financial reports published on the web www.idx.co.id and sustainability reports published on the respective company's website and comes from http://kehati.or.id/indeks-sri-kehati/ to determine which companies are included in this study population. For daily closing, stock price data are obtained from the website Finance.yahoo.com. Then the data are sorted by several criteria required in this study to find the necessary sample. This study population is all companies listed in the Sustainable and Responsible Investment Foundation for Indonesian Biodiversity (SRI-KEHATI) stock index of the Indonesia Stock Exchange from 2016 to 2019. Twenty-five issuers are constituents of the SRI-KEHATI index—the sampling method in this study uses purposive sampling. The criteria for selecting the sample were to enter the SRI-KEHATI index list from 2016 to 2019 in a row, publishing a Sustainability Report, and reporting quantitative greenhouse gas emissions in the GRI 305 standard.

This study's independent variable is financial performance proxies by the profitability as measured by Return on equity (ROE) and environmental performance as proxied by greenhouse gas emissions measured in metric tons in the GRI 305 standard. The dependent variable in this study is firm value, which is proxied by Tobin's Q. In quantitative research, data analysis is an activity after data from all respondents have been collected. Data analysis activities are grouped data based on variables, tabulating, presenting, and performing calculations to test the hypotheses that have been proposed. Data management in this study will use SmartPLS 3.2.9 Software. Structural Equation Modeling (SEM) is a method used to cover weaknesses in the regression method. PLS (Partial Least Square) uses a bootstrapping method or random multiplication, for which the assumption of normality will not be a problem. Apart from that (Partial Least Square), PLS does not require a minimum number of samples to be used in research. Research that has a small selection can still use (Partial Least Square) PLS.

3. Results and Discussion

The inner model can be evaluated by looking at the r-square (indicator reliability) for the dependent construct and the t-statistical value of the path coefficient test. The higher the r-square value means, the better the prediction model of the proposed research model. The amount of path coefficients shows the level of significance in testing the hypothesis. Analysis of Variance (R2) or Determination Test can be shown in Table 1.

Table 1 R-square value

Construct variables	R Square
GHGE	0.005
Tobin's Q	0.145

The r-square value in Table 1 shows that environmental performance (greenhouse gas emissions/GHGE) can explain the variability of the profitability constructs by 0.5%, and other constructs explain the remaining 99.05% outside those examined in this study. Meanwhile, environmental performance (greenhouse gas emissions) and profitability (ROE) can explain the variability of the firm value construct (Tobin's Q) by 14.5%, and other constructs define the remaining 85.5% outside those examined in this study. Testing the goodness of fit of the PLS model can be seen from the model's SMRM value. The PLS model is declared to have met the Goodness of fit model criteria if the SRMR value is <0.10, and the model is declared a perfect fit if the SRMR value is <0.08.

Table 2 The goodness of fit model

	Saturated Model	Estimated Model
SRMR	0.000	0.000

The PLS model goodness of fit test in the table above shows that the SRMR value of the model in the saturated model is 0,000, and the estimated model is 0,000. The model is declared a perfect fit and feasible to test the research hypothesis because the SRMR value of both the saturated and estimated models is below 0.10. Hypothesis testing uses a significance of 1% *, 5% *, and 10% ***, then the hypothesis is rejected if the p-value is <0.10, and the idea is accepted if the p-value is> 0.10. The readers can see the results of testing the direct effect of the hypothesis in the following table:

Table 3 Direct effect testing results

	Original Sample (O)	P-Values
ROE -> Tobins Q	0.178	0.060***
ROE -> GHGE	-0.068	0.037**
GHGE -> Tobins	-0.325	0.000*

Based on the PLS analysis results in the table, the p-value of the direct effect of the variable profitability (financial performance) ROE on firm value (Tobin's Q) is 0.060 *** with a path coefficient of 0.178. Because the p-value <0.10 and the path coefficient are positive, profitability positively and significantly affects the firm value, or *H_1 is accepted*. It shows that the better the profitability, the higher the substantial value. The p-value of the profitability variable's direct effect on greenhouse gas emissions is 0.037 **, and the path coefficient is -0.068. Even though the p-value <0.05, the path coefficient is negative at 0.068, so *H_2 is not accepted*. It concluded that profitability does not positively and significantly affect increasing greenhouse gas emissions but negatively affects. It shows that the better its profitability, the lower the value of greenhouse gas emissions that the company can report. The p-value of the variable greenhouse gas emissions' direct effect on firm value is 0.000 * with a path coefficient of -0.325. Because the p-value <0.001 * and the path coefficient is negative at -0.325, *H_3 is not accepted*. It concluded that greenhouse gas emissions do not positively and significantly affect firm value but negatively impact. It indicates that the better the reported greenhouse gas emissions, the lower the substantial value. The greenhouse gas emission variable acts as an intervening variable in the profitability variable's effect on the firm value variable.

Based on the indirect effect analysis in table 4, the result shows that the p-value of the indirect effect of profitability on firm value mediated by greenhouse gas emissions is 0.090 ***. Because the test results' significance value <0.10 *** with a positive path coefficient, H4 is accepted. It concluded that company profitability could indirectly have a positive and significant effect on firm value. It shows that the better the company's profitability, the better the reported greenhouse gas emissions will increase, increasing firm value.

Table 4 Indirect effect testing results

	T Statistics (|O/STDEV|)	P-Values
ROE -> GHGE -> Tobins Q	1.3.4.3	0.090***

4. Discussion

It is evidence that profitability as a proxy for financial performance has a positive and significant effect on firm value. It shows that the better the profitability of a company gets, the higher the firm value is. The results of this study support Theory of Signaling, which models the direct path of profitability to strong value. It means that the company's profitability information gets a positive response from investors and shareholders. Based on this study's results, profitability information can become the primary concern of shareholders and potential investors who need the company's right image from an external perspective. The greater the value of ROE financial performance information is presented, the stronger the corporate image motive becomes, and the more substantial investors' investment desire grows in the sample companies.

Profitability is not proven to positively and significantly affect the company's greenhouse gas emissions; however, it has a negative and significant impact. This study's results do not support the Theory of Legitimacy, which models a direct profitability path to greenhouse gas emissions. This study finds that companies' willingness to implement environmental programs is more due to the government's regulatory factors. When a company has high profitability, its desire to deal with ecological problems appears to decrease. The view that environmental concerns require substantial resources and that the critical resources are better allocated to the owners' welfare is evident. The willingness of the management does not receive strong support from the owner and all company stakeholders. It is consistent with the traditional view that excessive company involvement in environmental activities will harm its economic or financial performance [38]. If environmental performance is good, it will correlate with a decrease in economic or financial arrangement [12]. Disclosure of ecological performance requires actual high costs. Therefore, only profitable companies can bear these costs [14]. Thus, when the company's environmental performance is getting better, its willingness to sacrifice or budget its resources for environmental problems is also getting more significant. It impacts the potential for the decline (financial performance) of the achieved profits [39].

This study's results can also be understood by paying attention to the research data using the 2019 reporting year, reported in 2020. We have known that at the end of 2019, there was an international covid-19 outbreak worldwide. It has an impact on the sluggishness of local, national, and even international trade. Many countries have made social restrictions and even lockdowns to stop the Covid-19 virus spread. When the company still posted a profit in that year, the profit prioritized for the safety of the company's operations or the company owner's prosperity rather than an environmental improvement as regulated by government regulations.

This study also shows evidence that greenhouse gas emissions have no positive and significant effect on firm value. Still, on the contrary, greenhouse gas emissions have a negative and significant impact on firm value. It shows that the better the greenhouse gas emissions a company reports, the lower its cost. This study's results can support the Theory of Signaling, which models the direct pathway of environmental performance as proxied by greenhouse gas emissions to firm value, even though the signal is captured negatively by stakeholders. On the other hand, the failure to prove this hypothesis is also due to the company's greenhouse gas emission reports that have not fully received stakeholders' appreciation. For example, the government believes that information on greenhouse gas emissions or its environmental performance is still considered an empty slogan for the long term [40].

5. Conclusion

These test results prove that greenhouse gas emissions can mediate the effect of profitability on firm value. It shows that the better the company's profitability gets, the better the information on reported greenhouse gas emissions is, increasing firm value. The results of this study support the Theory of Signaling, which models an indirect pathway of profitability to substantial value through reports of greenhouse gas emissions. It means that the company's profitability information will impact, improving the information on reported greenhouse gas emissions to get a positive response from investors and shareholders themselves in increasing firm value. Public companies make these environmental issues (greenhouse gas emissions) a strategic part of their coverage report.

Limitations in this study are environmental performance (greenhouse gas emissions / GHGE) can explain the variability of the profitability constructs only 0.5%. Meanwhile, ecological performance (greenhouse gas emissions) and profitability (ROE) can explain the variability of the firm value construct (Tobin's Q) only 14.5% and other constructs explain the remaining 85.5% outside those examined in this study.

References

[1] CAESARIO E. B. & ARIEF T. Proyeksi Target IHSG 2018 Susut. *Bisnis Indonesia*, 01 October 2018:14. http://www.idx.co.id/StaticData/NewsAndAnnouncement/ANNOUNCEMENTSTOCK/From_EREP/201810/05292ece57_f25bb227dd.pdf

[2] ZHANG Y. & WIERSEMA F.M. Stock Market Reaction to CEO Certification: The signaling role of CEO background. *Strategic Management Journal*, 2009, 30(1):693–710. https://doi.org/ 10.1002/smj.

[3] SUCUAHI W. & CAMBARIHAN J. M. Influence of profitability to the firm value of diversified companies in the Philippines. *Accounting and Finance Research*, 2016, 5(2): 149–153. https://doi.org/ 10.5430/afr.v5n2p149.

[4] DESWANTO R. B. & SIREGAR S. V. The Association between environmental disclosure with financial performance, environmental performance, and firm value. *Social Responsibility Journal*, 2017, 14(1) https://doi.org/ 10.1108/09574090910954864.

[5] RATRI R. F. & DEWI M. The effect of financial performance and environmental performance on firm value with Islamic Social Reporting (ISR) disclosure as an intervening variable in companies listed at Jakarta Islamic Index (JII). *SHS Web of Conferences*, 2017, 34(4):12003. https://doi.org/ 10.1051/shsconf/20173412003.

[6] KARACA S. S. & SAVSAR A. The effect of financial ratios on the firm value : Evidence from Turkey. *Journal of Applied Economic Science*, 2012, 7(1): 56–63. https://doi.org/ 10.5958/0973-9343.2015.00026.5.

[7] PURWANTO P. & AGUSTIN J. Financial performance towards the value of firms in essential and chemicals industry. *European Research Studies Journal*, 2017, 20(2): 443–460.

[8] AYUBA H., BAMBALE A., MURTALA I., & SULAIMAN A.S. Effects of financial performance, capital structure and firm size on firms' value of insurance companies in Nigeria. *Journal of Finance, Accounting, and Management*, 2019, 10(1):57–74. https://doi.org/10.1002/smj.772

[9] LEV, B. AND GU, F. The end of accounting and the path forward for investors and managers, 1st ed. Hoboken, New Jersey: Jhon Wiley & Sons, Inc., 2016.

[10] DAVERN M., GYLES N., HANLON D., PINNUCK M. Decision Usefulness in Financial Report : Research report No.1 Are Financial Reports Still Useful to Investors ? Monash University, Australia:CPA Australia, 2018 [Online] https://research.monash.edu/en/publications/decision-usefulness-in-financial-reports-research-report-no1-are-

[11] SETIAWANTA, Y. & PURWANTO, A. Stakeholder power, sustainability reporting, and corporate governance: A case study of the manufacturing industry at Indonesia's stock exchange', *Scientific Papers of The University of Pardubice Series D*, 2019, 46(2): 147–158.

[12] FILBECK G. & GORMAN R. F. The relationship between the environmental and financial performance of public utilities. *Environmental and Resource Economics*, 2004, 29(2): 137–157. https://doi.org/ 10.1023/B:EARE.0000044602.86367.ff.

[13] IWATA H. & OKADA K. How does environmental performance affect financial performance? Evidence from Japanese manufacturing firms. *Ecological Economics*, 2011, 70(9): 1691–1700. https://doi.org/ 10.1016/j.ecolecon.2011.05.010.

[14] QI G. Y., ZENG S.X., SHI J.J., *et al.*, Revisiting the relationship between environmental and financial performance in Chinese industry. *Journal of Environmental Management*, 2014, 145(1): 349–356. https://doi.org/ 10.1016/j.jenvman.2014.07.010.

[15] MUHAMMAD N., SCRIMGEOUR F., REDDY K., & ABIDIN S. The relationship between environmental performance and financial performance in periods of growth and contraction: Evidence from Australian publicly listed companies. *Journal of Cleaner Production*, 2015, 102: 324–332. https://doi.org/ 10.1016/j.jclepro.2015.04.039.

[16] OGUNDARE E. A. The impact of sustainability reporting on organizational performance - the Malaysia experience. *International Journal of Accounting & Business Management*, 2013, 1(2):82–100.

[17] NAGAYAMA S. & TAKEDA F. An empirical study on the impact of environmentally friendly news on stock prices in Japan. In: *Proceedings of Asia-Pacific Economic Association 2006 Annual Meeting, Seattle, July 29-30, 2006.* Singapore: APEA, 2006: 1-17. https://www.researchgate.net/publication/241575365_An_Empirical_Study_on_the_Impact_of_Environmentally_Friendly_News_on_Stock_Prices_in_Japan

[18] LORRAINE N. H. J., COLLISON D. J. & POWER D. M. An analysis of the stock market impact of environmental performance information. *Accounting Forum*, 2004, 28(1): 7–26. https://doi.org/ 10.1016/j.accfor.2004.04.002.

[19] AL-TUWAIJRI A. S., CHRISTENSEN T. E. & HUGHES K. E. The relations among environmental disclosure, environmental performance, and economic performance: A simultaneous equations approach, *Accounting, Organizations, and Society*, 2004, 29(5–6): 447–471. https://doi.org/ 10.1016/S0361-3682(03)00032-1.

[20] JACOBS B. W., SINGHAL V. R. & SUBRAMANIAN R. An empirical investigation of environmental performance and the market value of the firm. *Journal of Operations Management*, 2010, 28(5): 430–441. https://doi.org/ 10.1016/j.jom.2010.01.001.

[21] YADAV P. L., HAN S. H. & RHO J. J. Impact of environmental performance on firm value for sustainable investment: Evidence from large US firms. *Business Strategy and the Environment*, 2015, 25(6):1–9. https://doi.org/ 10.1002/bse.1883.

[22] IATRIDIS G. E. Environmental disclosure quality: Evidence on environmental performance, corporate governance, and value relevance. *Emerging Markets Review*, 2013, 14(1): 55–75. https://doi.org/ 10.1016/j.ememar.2012.11.003.

[23] CONNELLY B. L., CERTO S.T., REUTZEL C.R., & DUANE R. Signaling theory: A review and assessment. *Journal of Management*, 2011, 37(1): 39–67. https://doi.org/ 10.1177/0149206310388419.

[24] SPENCE M. Job market signaling. *The Quarterly Journal of Economics*, 1973, 87(3):355.
https://doi.org/ 10.2307/1882010.
[25] SCHNIETZ K. E. & EPSTEIN M. J. Exploring the financial value of a reputation for corporate social responsibility during a crisis. *Corporate Reputation Review*, 2005, 7(4): 327–345.
https://doi.org/ 10.1057/palgrave.crr.1540230.
[26] SUCHMAN M. C. Managing legitimacy : strategic and institutional approaches. *Academy of Management Review*, 1995, 20(3): 571–610.
https://doi.org/ 10.5465/AMR.1995.9508080331
[27] DOWLING J. & PFEFFER J. Organizational Legitimacy : Social values and organizational behavior. *The Pacific Sociological Review*, 1975, 18(1): 122–136. https://doi.org/ 10.2307/1388226.
[28] TREGIDGA H., MILNE M. & KEARINS K. Organisational Legitimacy and social and environmental reporting research: The potential of discourse analysis. In: *Proceedings of the 5th Australasian Conference on Social and Environmental Accounting Research, Wellington, New Zealand, November 24-26, 2006*. Wellington: CSEAR, 2007: 45–79.
[29] TRISTIARINI N., UTOMOI S. D. & SETIAWANTA Y. The capability of risk as a corporate reputation driver to increase market value. *Quality Access to Success*, 2019, 20(168): 54.
[30] QIU Y., SHAUKAT A., & THARYAN R. Environmental and social disclosures : link with corporate financial performance environmental and social disclosures : Link with corporate financial performance. *The British Accounting Review*, 2014, 48(1): 102–116.
https://doi.org/10.1016/j.bar.2014.10.007
[31] QIU J. Quality of CSR reporting in China: A comparative analysis between state- and privately-owned real estate companies. *Social Impact Research Experience (SIRE)*, 2017, 50.
https://repository.upenn.edu/sire/50/
[32] AGGARWAL D. & PADHAN P. C. Impact of capital structure on firm value : Evidence from the Indian hospitality industry. *Theoretical Economics Letters*, 2017, 7(1): 982-1000-2086.
https://doi.org/ 10.4236/tel.2017.74067.
[33] CLARKSO`N P. M, RICHARDSON G.D., VASVARI F.P. Revisiting the relation between environmental performance and environmental disclosure: An empirical analysis. *Accounting, Organizations and Society*, 2007, 33(4–5): 303–327. https://doi.org/ 10.1016/j.aos.2007.05.003.
[34] QIU Y., SHAUKAT A., & THARYAN R. Environmental and social disclosures: Link with corporate financial performance. *British Accounting Review*, 2014, 48(1): 102–116.
https://doi.org/ 10.1016/j.bar.2014.10.007.
[35] CRISÓSTOMO, V. L., DE SOUZA FREIRE, F. AND DE VASCONCELLOS, F. C. Corporate social responsibility, firm value and financial performance in Brazil. *Social Responsibility Journal*, 2011, 7(2): 295–309. https://doi.org/ 10.1108/17471111111141549.
[36] KASSINIS G. I. & SOTEROU A. C. Greening the Service Profit Chain: the Impact of Environmental Management Practices. *Production and Operations Management*, 2009, 12(3): 386–403.
https://doi.org/ 10.1111/j.1937-5956.2003.tb00210.x.
[37] SIEGEL D. Green Management matters only if it yields more green: An economic/strategic perspective. *Academy of Management Perspectives*, 2009, 26(8):45--52. https://doi.org/ 10.5465/AMP.2009.43479260.
[38] PALMER K., OATES W. E., & PORTNEY P. R. Tightening environmental standards: The benefit-cost or the no-cost paradigm? *Journal of Economic Perspectives*, 1995, 9(4): 119–132.
https://doi.org/ 10.1257/jep.9.4.119.
[39] WAGNER M. & SCHALTEGGER S. The effect of corporate environmental strategy choice and environmental performance on competitiveness and economic performance : An empirical study of EU manufacturing. European Management Journal, 2004, 22(5): 557–572.
https://doi.org/ 10.1016/j.emj.2004.09.013.
[40] HONGJUN W. & XIAOBO S. Environmental disclosure, environmental performance, and firm value. In: *Proceedings of the 2010 International Conference on E-Product E-Service and E-Entertainment, Henan, China, 7-9 November 2010. Piscataway, New Jersey: Institute of Electrical and Electronics Engineers*, 2010: 1–6. https://doi.org/10.1109/ICEEE.2010.5661447.

参考文:

[1] CAESARIO E. B. 和 ARIEF T. 普罗耶克西目標 IHSG 2018苏苏特。比斯尼斯印度尼西亞，2018 年 10 月 1 日：14.
http://www.idx.co.id/StaticData/NewsAndAnnouncement/ANNOUNCEMENTSTOCK/From_EREP/201810/05292ece57_f25bb227dd.pdf
[2] ZHANG Y. 和WIERSEMA F.M. 股票市場對首席执行官認證的反應：首席执行官背景的信號作用。戰略管理雜誌，2009，30（1）：693-710。https://doi.org/10.1002/smj。
[3] SUCUAHI W. 和CAMBARIHAN J. M. 盈利能力對菲律賓多元化公司公司價值的影響。會計與金融研究，2016，5(2)：149-153。https://doi.org/10.5430/afr.v5n2p149。
[4] DESWANTO R. B. 和SIREGAR S. V. 環境披露與財務績效、環境績效和公司價值之間的關聯。社會責任雜誌，2017，14(1)
https://doi.org/10.1108/09574090910954864 [5] RATRI R. F. 和DEWI M. 將伊斯蘭社會報告 (情监侦) 披露作為雅加達伊斯蘭指數 (联合情报局) 上市公司的干預變量，研究財務業績和環境業績對公司價值的影響。 SHS 會議網絡，2017，34(4):12003。https://doi.org/10.1051/shsconf/20173412003。
[6] KARACA S. S. 和 SAVSAR A. 財務比率對公司價值的影響：來自土耳其的證據。應用經濟科學雜誌，2012, 7（1）：56-63。https://doi.org/10.5958/0973-9343.2015.00026.5。
[7] PURWANTO P. 和AGUSTIN J. 基礎和化工行業公司價值的財務業績。歐洲研究雜誌，2017，20(2)：443–460。

[8] AYUBA H.、BAMBALE A.、MURTALA I. 和 SULAIMAN A.S. 財務業績、資本結構和公司規模對尼日利亞保險公司公司價值的影響。金融、會計與管理雜誌，2019，10(1):57‑74。https://doi.org/10.1002/smj.772
[9] LEV, B. 和GU, F. 會計的終結和投資者和管理者的前進道路，第一版。新澤西州霍博肯：約翰威利父子公司2016 。
[10] DAVERN M., GYLES N., HANLON D., PINNUCK M. 財務報告中的決策有用性：研究報告 No.1 財務報告對投資者仍然有用嗎？澳大利亞莫納什大學：澳洲會計師公會，2018 [在線] https://research.monash.edu/en/publications/decision-usefulness-in-financial-reports-research-report-no1-are-
[11] SETIAWANTA, Y . 和 PURWANTO, A. 利益相關者權力、可持續性報告和公司治理：印度尼西亞證券交易所製造業案例研究，帕爾杜比採大學科學論文系列 D，2019，46(2)：147‑158。
[12] FILBECK G. 和 GORMAN R. F. 公共事業的環境和財務績效之間的關係。環境與資源經濟學，2004, 29(2)：137‑157。https://doi.org/10.1023/B:EARE.0000044602.86367.ff 。
[13] IWATA H. 和OKADA K. 環境績效如何影響財務績效？來自日本製造公司的證據。生態經濟學, 2011, 70(9): 1691‑1700。https://doi.org/10.1016/j.ecolecon.2011.05.010
[14] 齊光耀, 曾世勳, 史家傑.等, 重新審視中國工業環境與財務績效之間的關係。環境管理雜誌，2014，145（1）：349-356。https://doi.org/10.1016/j.jenvman.2014.07.010。
[15] MUHAMMAD N.、SCRIMGEOUR F.、REDDY K. 和 ABIDIN S. 增長和收縮時期環境績效與財務績效之間的關係：來自澳大利亞上市公司的證據。清潔生產雜誌，2015，102：324-332。https://doi.org/10.1016/j.jclepro.2015.04.039。
[16] OGUNDARE E. A. 可持續性報告對組織績效的影響‒‒馬來西亞的經驗。國際會計與商業管理雜誌，2013, 1(2):82‑100。
[17] NAGAYAMA S. 和TAKEDA F. 一項關於日本環保新聞對股票價格影響的實證研究。載於：亞太經濟協會 2006 年年會，西雅圖，2006 年 7 月 29-30 日。新加坡：APEA，2006：1-17。https://www.researchgate.net/publication/241575365_An_Empirical_Study_on_the_Impact_of_Environmentally_Friendly_News_on_Stock_Prices_in_Japan
[18] LORRAINE N. H. J.、COLLISON D. J. 和 POWER D. M. 環境績效信息對股市影響的分析。會計論壇，2004，28(1)：7-26。https://doi.org/10.1016/j.accfor.2004.04.002。
[19] AL-TUWAIJRI A. S.、CHRISTENSEN T.E. 和 HUGHES K.E. 環境披露、環境績效和經濟績效之間的關係：聯立方程方法'，會計、組織和社會，2004 ，29(5-6)： 447-471。https://doi.org/10.1016/S0361-3682(03)00032-1。
[20] JACOBS B. W., SINGHAL V. R. 和 SUBRAMANIAN R. 環境績效和公司市場價值的實證調查。運營管理雜誌，2010, 28（5）：430-441。https://doi.org/10.1016/j.jom.2010.01.001。
[21] YADAV P. L., HAN S. H. 和RHO J. J. 環境績效對可持續投資公司價值的影響：來自美國大型公司的證據。商業戰略與環境，2015，25(6):1-9。https://doi.org/10.1002/bse.1883。
[22] IATRIDIS G. E. 環境披露質量：關於環境績效、公司治理和價值相關性的證據。新興市場評論，2013，14(1)：55‑75。https://doi.org/10.1016/j.ememar.2012.11.003。
[23] CONNELLY B. L.、CERTO S.T.、REUTZEL C.R. 和 DUANE R. 信號理論：回顧和評估。管理學雜誌，2011，37(1)：39-67。https://doi.org/10.1177/0149206310388419。
[24] SPENCE M. 就業市場信號。經濟學季刊，1973，87（3）：355。https://doi.org/10.2307/1882010。
[25] SCHNIETZ K. E. 和 EPSTEIN M. J. 在危機期間探索企業社會責任聲譽的財務價值。企業聲譽評論，2005 ，7(4)：327‑345。https://doi.org/10.1057/palgrave.crr.1540230。
[26] SUCHMAN M. C. 管理合法性：戰略和製度方法。管理學會評論，1995，20(3)：571-610。https://doi.org/10.5465/AMR.1995.9508080331
[27] DOWLING J. 和 PFEFFER J. 組織合法性：社會價值觀和組織行為。太平洋社會學評論，1975 ，18（1）：122-136。https://doi.org/10.2307/1388226。
[28] TREGIDGA H., MILNE M. 和 KEARINS K. 組織合法性和社會和環境報告研究：話語分析的潛力。載於：第五屆澳大利亞社會和環境會計研究會議論文集，新西蘭惠靈頓，2006 年 11 月 24-26 日。惠靈頓：中科院，2007：45-79。
[29] TRISTIARINI N., UTOMOI S. D. 和SETIAWANTA Y. 風險能力作為企業聲譽驅動因素以增加市場價值。質量通向成功，2019，20（168）：54。
[30] QIU Y., SHAUKAT A., 和THARYAN R. 環境和社會披露：與公司財務業績的聯繫
環境和社會披露：與公司財務業績的聯繫
。英國會計評論，2014，48(1)：102‑116。https://doi.org/10.1016/j.bar.2014.10.007
[31] QIU J. 中國企業社會責任報告的質量：國有和民營房地產公司的比較分析。社會影響研究經驗 (SIRE)，2017，50。https://repository.upenn.edu/sire/50/
[32] AGGARWAL D. 和 PADHAN P. C. 資本結構對公司價值的影響：來自印度酒店業的證據。理論經濟學快報，2017，7(1)：982-1000-2086。https://doi.org/10.4236/tel.2017.74067。
[33] CLARKSO`N P. M, RICHARDSON G.D., VASVARI F.P. 重新審視環境績效與環境披露之間的關係：實證分析。

會計、組織和社會，2007，33(4-5)：303-327。https://doi.org/10.1016/j.aos.2007.05.003。

[34] QIU Y., SHAUKAT A., 和 THARYAN R. 環境和社會披露：與公司財務業績的聯繫。英國會計評論，2014，48(1)：102–116。https://doi.org/10.1016/j.bar.2014.10.007

[35] CRISÓSTOMO, V. L.、DE SOUZA FREIRE, F. 和 DE VASCONCELLOS, F. C. 巴西的企業社會責任、公司價值和財務業績。社會責任雜誌，2011，7(2)：295-309。https://doi.org/10.1108/174711111111141549。

[36] KASSINIS G. I. 和 SOTEROU A. C. 綠化服務利潤鏈：環境管理實踐的影響。生產和運營管理，2009，12(3)：386–403。https://doi.org/10.1111/j.1937-5956.2003.tb00210.x。

[37] SIEGEL D. 綠色管理只有在產生更多綠色時才重要：經濟/戰略視角。管理觀點學會，2009，26(8):45--52。https://doi.org/10.5465/AMP.2009.43479260。

[38] PALMER K., OATES W. E., 和PORTNEY P. R. 收緊環境標準：收益成本還是無成本範式？經濟展望雜誌，1995，9(4)：119-132。https://doi.org/10.1257/jep.9.4.119。

[39] WAGNER M. 和 SCHALTEGGER S. 企業環境戰略選擇和環境績效對競爭力和經濟績效的影響：歐盟製造業的實證研究。歐洲管理雜誌，2004，22（5）：557-572. https://doi.org/10.1016/j.emj.2004.09.013。

[40] HONGJUN W. 和 XIAOBO S. 環境披露、環境績效和公司價值。在：2010 年電子產品電子服務和電子娛樂國際會議論文集，中國河南，2010 年 11 月 7-9 日。新澤西州皮斯卡塔韋：電氣和電子工程師協會，2010：1-6。 https://doi.org/10.1109/ICEEE.2010.5661447。