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CORPORATE SOCIAL RESPONSIBILITY DISCLOSURE, GREEN INNOVATION AND CORPORATE PROFITABILITY

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ABSTRACT

This study examines the effect of corporate social responsibility disclosure and the application of green innovation on corporate profitability. The population of this study is all companies engaged in energy and mining listed on the Indonesia Stock Exchange in 2018-2021. The sample in this study was energy and mining companies that provided annual and sustainability reports consecutively during the research period. The analysis tool used in this study is E-views version 12. The results of this study show that CSR disclosure does not positively affect profitability proxied using ROA, ROE, and EPS. In contrast, green innovation positively influences the company’s ROE. It does not positively affect the company's ROA and EPS, which means that the disclosure of green innovation What the company does can attract investors to invest and invest in the company.

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INTRODUCTION

In essence, the company wants to profit from using its resources. Of course, companies that use natural resources as the primary raw material in their operating activities will continuously utilize these natural resources in the future. In the long run, this overuse will damage the environment and the surrounding ecosystem (Rita Susanti & Budiasih, 2019). Along with the development of the times, the company's goals have slowly shifted. From what was initially conventional to modern, where the company began to pay attention to social welfare and the surrounding environment, in addition to the profit that the company could generate. Research on the effect of corporate social responsibility (CSR) on profitability has been done before, such as the research of Ekatah et al. (2011); Son (2015); Nnenna & Carol (2016), and Lee & Jung (2016). The study showed that good CSR disclosure could improve a company's ROA, ROE, & EPS. on the other hand Babalola (2012) and Folajin et al. (2014) say about the effect of CSR on the profitability of companies. The results showed a decrease in the ROA & ROE of the companies cited during the period under review.

In addition to CSR, green innovation is currently one factor highlighted by investors regarding a company. Investors consider that companies that implement green innovations can generate high profitability. Because using green innovations can not only solve environmental problems in the production and consumption processes but also increase market competitiveness through increasing production sustainability (Chan et al., 2016). Green innovation is defined as how a company reduces the negative impact of its activities on the natural environment, designed to reduce energy use and pollution, waste recycling, and sustainable resource utilization (Chen et al., 2006). Previous research on green innovation, Such as the research that has conducted by Chen et al. (2006); Li et al. (2017); Zhang et al. (2019); Handayani et al. (2017), Huang & Li (2017); and Caracuel et al. (2013). they say that green product innovation can increase a company's competitive advantage and financial performance.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Stakeholder Theory

According to Freeman (1984), Stakeholder theory is a group of people or individuals who influence achieving company goals. CSR disclosure is a signal given by management to all stakeholders, including potential investors, regarding the company's prospects in the future. It shows the added value that the company has for its concern for the economic, social, and environmental impacts arising from the company's activities.

Disclosure of financial, social, and environmental information is carried out to meet stakeholders' information needs and get support from stakeholders for the sake of the elegance of a company's life. The better the CSR disclosure carried out by the company, the more stakeholders will support the company for all its activities aimed at improving performance and achieving the profit expected by the company (Lindawati & Puspita, 2015).

Legitimacy Theory

Dowling & Pfeffer (1975) state that organizations seek to establish harmony between the social values associated with or implied by their activities and acceptable norms of behavior in the more extensive social system. The company's sustainability depends on the relationship between the company and the community in which the company operates.

The higher the level of disclosure made by the company, the higher the company's reputation in the eyes of the public. The company hopes that by making CSR disclosures, the company will gain social legitimacy and will maximize the size of its finances for an extended period. In addition, CSR disclosure is expected to improve the company's image and increase sales, which, in the end, certainly positively affects the company's profitability (Agustina, 2013).

Definition of Profitability

Profit defines as the efficiency and effectiveness of organizational units in utilizing the resources owned by the company. The company's ability to generate profits and company prospects in the future is often referred to as profitability. The high profitability value indicates that the company has a high level of profit and efficiency (Andreas et al., 2015).

According to Adyani & Sampurno (2011), The profitability ratio is considered the most effective way to measure a company's business performance, as it is a way to compare different investment options depending on the level of risk. The higher the investment risk, the higher the expected profitability.

Various Profitability Ratios

Return On Asset (ROA)

ROA is a measurement carried out to determine the profit obtained by using or utilizing assets owned by the entity (Wibisono & Panggabean, 2019). Return on Asset (ROA) is a measurement indicator to see the ability of an entity to make a profit from the assets owned by the company. The higher the ratio, the better the company, and the asset can spin faster in making a profit.

Return On Equity (ROE)

According to Ikhwal (2016), Return on Equity (ROE) is the top of a company's net income compared to its net assets (capital or equity). Return On Equity (ROE) can also be defined as a measurement to determine the amount of profit obtained through shareholders' investment activities in the company (Wibisono & Panggabean, 2019). This ratio measures how much profit is generated compared to the paid-up capital by its shareholders. If the return on equity is high, the higher the net profit is generated from each rupiah of funds embedded in the equity, and vice versa (Sanjaya, 2015).

Earnings Per Share (EPS)

Earnings Per Share (EPS) compares the profit after tax earned by the issuer and the number of shares outstanding. According to Putra (2015), EPS is an indicator of a company's success because the higher the EPS, the more excellent the opportunity for investors to profit from each share. An increase in the earnings per share ratio indicates higher earnings per share, assuming the number of shares outstanding remains constant. As the company's profit grows, the likelihood of dividends increasing, or reinvestment (retained earnings) is expected to lead to more excellent performance in the future.

Definition of Corporate Social Responsibility

Kotler (2005) defines CSR as a company's commitment to improving the well-being of society through discretionary business practices and the contribution of corporate resources. A vital element of this definition is a discretionary word that does not refer to a business activity carried out due to specific legal regulations because it contains moral and ethical reasons.

Then Herman (2018) defines CSR as an activity carried out by a company to contribute the results of its business to the company and the community in general. CSR is a concept of corporate activities contributing to sustainable economic development. The company not only focuses on economic aspects but also must consider the impact on the social and environmental of the company's operational activities (Wibisono & Panggabean, 2019).

Green Innovation

Green innovation is a way for companies to reduce the negative impact of their activities on the natural environment. Green innovation consists of green product innovation and process innovation designed to reduce energy use and pollution, waste recycling, and sustainable resource utilization, according to (Chen et al., 2006).

Green innovation plays a crucial role in moving the industry towards sustainable production and the evolution of sustainable manufacturing initiatives facilitated by green innovation. Companies can enhance their environmental strength by complying with international environmental conventions and implementing new scientific and technological breakthroughs to strengthen green innovation (Chen, 2008).

Hypothesis Development

Disclosure of corporate social responsibility is carried out to meet information needs by parties interested in the company. In line with stakeholder theory, the company has obligations not only to the owner of the company but also to its stakeholders (Wibisono & Panggabean, 2019).

In addition, corporate social responsibility can be used as a promotional forum by the company to display the positive sides of the company to attract public and investor attention through activities that benefit the public. A good image and a good cycle will also be formed between the company and stakeholders, which will impact the company's performance and cause the company's profitability to move in a better direction. The research conducted by (Zhu, 2011), (Putra, 2015), (Babalola 2012), and (Lee & Jung, 2016).The summed up the hypothesis as follows:

H1a: Corporate social responsibility disclosure has a positive effect on corporate ROA
H1b: Corporate social responsibility disclosure has a positive effect on corporate ROE.
H1c: Corporate social responsibility disclosures have a positive effect on corporate EPS.

Green Innovation carried out by the company provides an understanding that the company cares about the social environment and knows that non-renewable natural resources must be managed wisely. The better the innovation carried out by the company, the more the public will fully support the company for all its activities, which aim to improve performance and achieve the profit expected by the company (Lindawati & Puspita, 2015). The company's green innovation is not only able to improve the company's internal products and processes but can also reduce the company's operational costs. Therefore, the higher the intensity of green innovation in a company, the greater the positive influence on the company's profitability.

The following research by Handayani et al. (2017), Zhou et al. (2019); Caracuel & Mandojana (2013); Miroshnychenko et al. (2017), and Przychodzen (2015). From the explanation above, then the hypothesis made is:

H2a: Green Innovation has a positive effect on a company's ROA
H2b: Green innovation positively affects a company's ROE
H2c: Green innovation has a positive effect on the company's EPS

RESEARCH METHOD

This study uses a quantitative approach. This study used the E-views 12 application to carry out the data processing process. The form of the equation for testing hypotheses in this study is as follows:

ROA = $\boldsymbol{\beta_0} + \beta_1 \mathbf{CSR} + \boldsymbol{\beta_2} \mathbf{D\ IH} + \mathbf{e}$ (equation I)
ROE = $\beta_0 + \beta_1 \mathbf{CSR} + \boldsymbol{\beta_2} \mathbf{DIH} + \mathbf{e}$ (equation II)
EPS = $\beta_0 + \beta_1 \mathbf{CSR} + \boldsymbol{\beta_2} \mathbf{DIH} + \mathbf{e}$ (equation III)

Information:

ROA	=	Return on Asset
ROE	=	Return on Equity
EPS	=	Earnings Per Share
b_0- b_2	=	Estimated coefficient
CSR	=	Corporate social responsibility
DIH	=	Dummy Green Innovation
e	=	Error term

Dependent variables

The formula used to measure profitability (Rhyne & Brigham, 1979) is as follows:

$$\mathbf{ROA} = \frac{\textbf{Net Income}}{\textbf{Total Assets}} \qquad \mathbf{EPS} = \frac{\textbf{Total earnings}}{\textbf{Number of Shares}}$$

$$\mathbf{ROE} = \frac{\textbf{Net Income}}{\textbf{Total Equity}}$$

Independent Variables

1) Corporate Social Responsibility.

$$\mathbf{CSRIj} = \frac{\sum Xyi}{ni}$$

Information:
CSRIj = corporate CSR index j
Xyi = number of disclosed items
ni = number of disclosure items for the company (91 items based on GRI-G4)

2) Green innovation.

$$\mathbf{Ih} = \frac{\sum Xyi}{ni}$$

Information:
IH = Green innovation company
Xyi = number of disclosed items
ni = number of disclosure items for the company (8 items based on the explanation of Chen et al., 2006 & Chen, 2008).

RESULT AND DISCUSSION

Descriptive Analysis

Table 1
Descriptive Statistical Results

Variable	Minimum	Maximum	Average	Standard Deviation
Roa	-0.300	0.285	0.051	0.093
ROE	-0.500	0.396	0.082	0.169
EPS	-0.020	0.434	0.044	0.104
Them	0.250	0.750	0.544	0.161
CSRI	0.077	0.692	0.419	0.188

Partial Significance Test (T-test)

Table 2
T-test results of equation 1

Variable	Coefficient	T-Statistics	Prob.
LOGCSR	-0.032	-0.542	0.592
Them	0.143	0.781	0.442

Table 3
T-test results of equation 2

Variable	Coefficient	T-Statistics	Prob.
CSR	-0.369	-4.053	0.000
Them	0.219	3.180	0.004

Table 4
T-test results of equation 3

Variable	Coefficient	T-Statistics	Prob.
CSR	-0.150	-0.732	0.471
Them	0.222	0.223	0.329

Discussion

CSR and Company Profitability

The results of this study prove that corporate social responsibility (CSR) disclosure does not have a positive effect on the profitability of companies proxied using the company's Return on Asset (ROA), Return On Equity (ROE), and Earning Per Share (EPS). So, the results of this study do not support the previous hypotheses, namely H1a, H1b, and H1c.

Because companies engaged in the mining sector have a higher role in environmental responsibility because they directly intersect and use natural resources in their operational activities, the disclosure of broad and diverse corporate responsibilities will undoubtedly cost much money. This sizeable operating cost will decrease the company's profit before tax, thus impacting the company's return on assets (ROA).

Generally, companies do CSR intending to display the positive side of the company and to improve the image of the company. With this good company image later, the company's profit should increase. However, companies often tend only to want to show the positive side, so this affects the consideration of investors and potential investors in making investment decisions, which ultimately triggers a decrease in the company's profit followed by no significant improvement in the company's financial performance (Dwijayanti, 2012). it is what causes the CSR disclosures made by the company not to have a significant impact on the company's Return On Asset (ROA), Return On Equity (ROE), and Earning Per Share (EPS).

The results of this study are in line with the results of research conducted by Yaparto (2013), which states that disclosure of corporate social responsibility does not affect the company's Return On Asset (ROA), Return On Equity (ROE), and Earning Per Share (EPS). However, the results of this study are not to the results of a study conducted by Wulandari (2020), which stated that the CSR disclosures made by the company had a significant impact on the company's Return On Asset (ROA), Return On Equity (ROE), and Earning Per Share (EPS).

Green Innovation and Company Profitability

The results of this study support the previous hypothesis (H2b) that green innovation has a positive effect on company profitability as measured by Return on Equity (ROE) in companies. It shows that the higher the intensity of the application of green innovations carried out by the company, the more impact will have an impact on increasing the return on equity (ROE).

The application of green innovations carried out by the company is undoubtedly an advantage for the company when compared to its competitors. The company that implements green innovations has concerns about environmental sustainability and operations. The results of this study certainly support the theory of legitimacy, where disclosures aim to improve the company's image and increase sales which, in the end, certainly has a positive effect on increasing the company's profitability (Agustina, 2013). The company hopes that with the care it gives to the environment, it will gain social recognition and maximize the size of its finances for an extended period.

According to Caracuel et al. (2013), green innovation is one of the most appropriate steps to achieve development benefits. Because good green innovation allows companies to eliminate production processes that are considered harmful to the environment, the companies can develop new products more efficiently. Green innovation does have a positive impact on the environment and on the company in the long term. Green innovation aims to increase productivity more effectively and efficiently.(Dewi & Rahmianingsih, 2020). In addition, green innovation is a program for the promotion and advertising of the company to the public, which can attract investors and potential investors. The public will give their trust and loyalty to the company as a form of support for its concern for environmental issues. Thus, the company has good prospects for sustainability of the company in the future, which allows investors to be willing to invest in the company so that it will directly affect the company's Return on Equity (ROE).

However, the results of this study do not support the H2a and H2c hypotheses because they do not show a positive influence between green innovation disclosures on the profitability of companies proxied using Return on Asset (ROA) and Earning Per Share (EPS).

Companies that want to implement green innovation must certainly consider many things, not only in terms of their impact on the environment but also need to pay attention to the effectiveness and efficiency of using costs from the use of innovations that the company may receive later. To implement environmentally friendly innovations, companies will generally use advanced technology that requires much money, for example, vibriosis truck technology, a vibration-producing vehicle specially designed for seismic reflection without damaging the soil structure and vegetation above it. Alternatively, like the E-Mining Report System technology (real-time reporting related to coal and overburden) used by PT. Acid Hill. The company's operating activities' transition to environmentally friendly innovations requires many costs, ranging from using technology to the costs required by the company's human resources to adapt to the technology. These costs will undoubtedly affect the amount of net profit owned by the company, which can directly affect the company's Return on Asset (ROA) and Earning Per Share (EPS) levels.

The results of this study are in line with the results of research conducted by Miroshnychenko et al. (2017) and Przychodzen (2015), where the results of the study show that companies that implement green innovation on average, have a higher Return On Equity (ROE) compared to established companies. The results of this study are contrary to the results of a study conducted by Busch & Hoffmann (2011), where the results show that the application of green innovation negatively affects financial performance as measured using the company's Return On Equity (ROE).

CONCLUSION AND RECOMENDATION

The test results of corporate social responsibility (CSR) disclosures do not affect the profitability of companies proxied by Return on Asset (ROA), Return on Equity (ROE), & Earning Per Share (EPS). The results of the green innovation disclosure prove that the disclosure of the intensity of using green innovation influences the profitability of companies (ROE). However, it does not affect the company's Return on Asset (ROA) and Earning Per Share (EPS).

REFERENCE

Adyani, L.R., &Sampurno, D. R. . (2011). Journal of Factor Analysis of Factors Influencing the Profitability of Roa Lyla Rahma Adyani. *Journal of Economic Dynamics of Development*, *7*(1), 46–54.

Aguilera-Caracuel, J., & Ortiz-de-Mandojana, N. (2013a). Green Innovation and Financial Performance: An Institutional Approach. *Organization and Environment*, *26*(4), 365–385. https://doi.org/10.1177/1086026613507931

Aguilera-Caracuel, J., & Ortiz-de-Mandojana, N. (2013b). Green Innovation and Financial Performance: An Institutional Approach. *Organization and Environment*, *26*(4), 365–385. https://doi.org/10.1177/1086026613507931

Agustina, S. (2013). *The Effect of Profitability and Corporate Social Responsibility Disclosures on Company Value*. 1–10.

Andreas, H. H., Sucahyo, U. S., & Elisabeth, D. (2015). Corporate Social Responsibility and Environmental Preservation. *Journal of Management*, *15*(1), 119–136.

Babalola, Y. A. (2012). The impact of corporate social responsibility on firms' profitability in Nigeria. *European Journal of Economics, Finance and Administrative Sciences*, *1*(45), 39–50.

Chan, H. K., Yee, R. W. Y., Dai, J., & Lim, M. K. (2016). The moderating effect of environmental dynamism on green product innovation and performance. *International Journal of Production Economics*, pp. *181*, 384–391. https://doi.org/10.1016/j.ijpe.2015.12.006

Chen, Y. S. (2008). The driver of green innovation and green image - Green core competence. *Journal of Business Ethics*, *81*(3), 531–543. https://doi.org/10.1007/s10551-007-9522-1

Chen, Y. S., Lai, S. B., & Wen, C. T. (2006). The influence of green innovation performance on corporate advantage in Taiwan. *Journal of Business Ethics*, *67*(4), 331–339. https://doi.org/10.1007/s10551-006-9025-5

Citraningrum, D. A., Handayani, S. R., & Nuzula, N. F. (2014). The Effect of Corporate Social Responsibility (CSR) on Financial Performance and Firm Value (Study on Companies Listed on the SRI KEHATI Index for the 2010-2012 Period). *Journal of Business Administration*, *14*(1), 84334.

Dewi, R., & Rahmianingsih, A. (2020). Increase company value through green innovation and eco-efficiency. *Expansion: Journal of Economics, Finance, Banking and Accounting, 12*(2), 225–243. https://doi.org/10.35313/ekspansi.v12i2.2241

Dowling, J., & Pfeffer, J. (1975). Pacific Sociological Association Organizational Legitimacy: Social Values and Organizational Behavior. *Source: The Pacific Sociological Review*, *18*(1), 122–136.

Dwijayanti, M. and W. (2012). The Effect Of Csr Disclosure Rate On The Relationship Between Financial Performance And Stock Returns. *Economy*, 1–14.

Edwin Wibisono, R. R. P. (2019). *The Influence Of Csr And Intellectual Capital On Financial Performance Edwin Wibisono * 1 Rosinta Ria Panggabean † 2*. *16*(1), 62–92.

Ekatah, I., Samy, M., Bampton, R., & Halabi, A. (2011). The relationship between corporate social responsibility and profitability: The case of royal dutch shell plc. *Corporate Reputation Review, 14*(4), 249–261. https://doi.org/10.1057/crr.2011.22

Estiasih, S. P., Prihatiningsih, E., & Fatmawati, Y. (2020). *Dividend Payout Ratio, Earning Per*

Share, Debt To Equity Ratio Against Share Price in LQ45 Companies. *21*(1), 205–212.

Folajin, O., Ibitoye, O., & Dunsin. (2014). Corporate Social Responsibility and Organizational Profitability: An Empirical Investigation of United Bank for Africa (UBA) Plc. *International Journal of Academic Research in Business and Social Sciences*, *4*(8), 205–214. https://doi.org/10.6007/ijarbss/v4-i8/1089

Handayani, R., Wahyudi, S., & Suharnomo, S. (2017). The effects of corporate social responsibility on manufacturing industry performance: The mediating role of social collaboration and green innovation. *Business: Theory and Practice*, *18*, 152–159. https://doi.org/10.3846/btp.2017.016

Hasanah, A., & Enggariyanto, D. (2018). Analysis of Factors Affecting Return On Asset in Manufacturing Companies Listed on the Indonesia Stock Exchange. *Journal Of Applied Managerial Accounting*, *2*(1), 15–25. https://doi.org/10.30871/jama.v2i1.658

Herman. (2018). Benefits of Corporate Social Responsibility by Primary and Secondary Stakeholders (Case Study at PT. Asia Sawit Makmur Jaya Riau Province) Herman Public Administration Study Program, Faculty of Social and Political Sciences, Riau Islamic University. *Scientific Journal of Public Management and Social Policy*, 2(2), 264–277.

Huang, J. W., & Li, Y. H. (2017). Green Innovation and Performance: The View of Organizational Capability and Social Reciprocity. *Journal of Business Ethics*, *145*(2), 309–324. https://doi.org/10.1007/s10551-015-2903-y

Ikhwal, N. (2016). Roa and Roe Analysis of Bank Profitability on the Indonesia Stock Exchange. *Al-Masraf: Journal of Financial and Banking Institutions*, *1*(2), 211–227. http://journal.febi.uinib.ac.id/index.php/almasraf/article/view/57

Lee, S., & Jung, H. (2016). The effects of corporate social responsibility on profitability: The moderating roles of differentiation and outside investment. *Management Decision*, *54*(6), 1383–1406. https://doi.org/10.1108/MD-07-2015-0268

Li, D., Zheng, M., Cao, C., Chen, X., Ren, S., & Huang, M. (2017). The impact of legitimacy pressure and corporate profitability on green innovation: Evidence from China's top 100. *Journal of Cleaner Production*, *141*, 41–49. https://doi.org/10.1016/j.jclepro.2016.08.123

Lindawati, A. S. L., & Puspita, M. E. (2015). Corporate Social Responsibility: Stakeholder Implications and Legitimacy Gap in Improving Company Performance. *Journal of Multiparadigma Accounting*, 157–174. https://doi.org/10.18202/jamal.2015.04.6013

Nnenna, O. V., & Carol, N. (2016). The Impact of Corporate Social Responsibility Reporting On Profitability of Nigerian Manufacturing Firms. In *Research Journal of Finance and Accounting ISSN 2222-1697 (Paper) ISSN 2222-2847 (Online)* (Vol. 7, Issue 16, pp. 227–232). core.ac.UK. https://core.ac.uk/download/pdf/234631806.pdf

Son, A. S. (2015). The Effect of Corporate Social Responsibility on Company Profitability (Empirical Study on the Indonesia Stock Exchange 2010-2013). *Journal of Nominal*, *IV*(2), pp. 88–110.

R. Edward Freeman. (1984). Stakeholder theory: The state of the art. *Academy of Management Annals*, *4*(1), 403–445. https://doi.org/10.1080/19416520.2010.495581

Rhyne, R. G., & Brigham, E. F. (1979). Fundamentals of Financial Management. In *The Journal of Finance* (Vol. 34, Issue 5). Cengage Learning. https://doi.org/10.2307/2327254

Rita Susanti, G. A. M., & Budiasih, I. G. A. N. (2019). Effect of Corporate Social Responsibility Disclosure and Profitability on Corporate Value. *E-Journal of Accounting*, *28*(3), 1767. https://doi.org/10.24843/eja.2019.v28.i03.p09

Sanjaya, T. (2015). Effect of Return, On Equity (ROE), Debt, Ratio (DR), Debt To, Equity Ratio (DER), Earnings, Per Share (EPS) On, Share Price (Study on, Food and Beverage companies that are listed on, Stock Exchange, Indonesia Period 2011-2013). *Journal of Business Administration S1 Universitas Brawijaya*, *23*(1), 85976.

Wulandari, S. (2020). The Effect of Corporate Social Responsibility (CSR) Disclosure on Company Profitability. *Journal of Accounting and Management Economics*, *19*(1), 1.

https://doi.org/10.19184/jeam.v19i1.15436

Yaparto, M. (2013). The effect of corporate social responsibility on financial performance in the manufacturing sector listed on the Indonesia Stock Exchange in the 2010-2011 period. *Business Ethics: A European Review*, p. *2*. https://doi.org/10.1111/j.1467-8608.1992.tb00173.x

Zhang, D., Rong, Z., & Ji, Q. (2019). Green innovation and firm performance: Evidence from listed companies in China. *Resources, Conservation and Recycling*, *144*, 48–55. https://doi.org/10.1016/j.resconrec.2019.01.023

Zhou, G., Zhang, L., & Zhang, L. (2019). Corporate social responsibility, the atmospheric environment, and technological innovation investment. *Sustainability*. https://www.mdpi.com/397202

Zhu, Y. L. (2011). An empirical study on corporate social responsibility and corporate profitability. *2011 International Conference on Management Science and Industrial Engineering, MSIE 2011*, pp. 650–652. https://doi.org/10.1109/MSIE.2011.5707492