Economics Bulletin

Volume 43, Issue 4

Do political connections affect the environmental performance of Sharia-compliant and non-Sharia-compliant firms? Evidence from Indonesia's PROPER program

Budi Wahyono
Universitas Sebelas Maret, Indonesia & Yamaguchi University, Japan

Abstract

This study offers novel evidence by investigating the impact of political connections on the environmental performance of both Sharia-compliant and non-Sharia-compliant firms. We use a unique sample of firms covered by Indonesia's PROPER program over the 2013–2019 period. We find that political ties are less (more) valuable for Sharia-compliant firms (non-Sharia-compliant firms) in enhancing their environmental performance. These results are robust to testing against an alternative measure of corporate environmental performance.

We thank Professor Kengo Shiroshita, Professor Katsuya Yamamoto, and two anonymous referees for their valuable and constructive suggestions.
Citation: Budi Wahyono, (2023) "Do political connections affect the environmental performance of Sharia-compliant and non-Sharia-compliant firms? Evidence from Indonesia's PROPER program", *Economics Bulletin*, Volume 43, Issue 4, pages 1771-1779
Contact: Budi Wahyono - budiwahyono@staff.uns.ac.id.
Submitted: August 31, 2022. **Published:** December 30, 2023.

1. Introduction

The issue of corporate environmental performance in emerging markets has recently attracted a great deal of attention (Zhang et al., 2021). A number of studies focus on the impact of political connections on corporate environmental performance (Zhang et al., 2019), but the findings are mixed. Some scholars find that politically connected firms show better corporate environmental performance (Lin et al., 2015; Zhang, 2017; Zhang et al., 2019), while others show that political connections reduce environmental performance (Florackis et al., 2023; Wang et al., 2023; Xiao and Shen, 2022). However, although the advantages and disadvantages of political connections on corporate environmental performance are well documented, no study so far investigates whether political connections impact the environmental performance of Sharia-compliant and non-Sharia-compliant firms differently. We fill this gap by exploring the effect of political connections on the environmental performance of both Sharia-compliant and non-Sharia-compliant firms.

Corporate environmental performance, indicating a firm's management of its environmental impact, can be measured in many ways. Whereas previous studies measure environmental performance by ratings of environmental strengths, environmental concerns (Zhang et al., 2019), environmental awards, environmental certifications, and environmental crises (Lin et al., 2015), this study employs the Program for Pollution Control Evaluation and Rating (PROPER) rankings. We choose the PROPER ranking as a corporate environmental performance measurement for several reasons. Indonesia's PROPER program was the first large-scale program in the developing world—it was established in 1995—to use information disclosure to reduce industrial pollution (García et al., 2009, 2007). In addition, according to the Ministry of Environment and Forestry,[1] the PROPER rankings reflect the firms' levels of compliance with environmental regulations, which include several indicators, i.e., environmental management systems, energy efficiency, emissions reduction, 3R (reduce, reuse, and recycle) for hazardous and toxic waste and solid non-hazardous and toxic waste, biodiversity protection, and community development. Furthermore, PROPER is an effective program in achieving firms' emissions reduction (García et al., 2007). Therefore, a number of countries set out to emulate Indonesia's PROPER program by creating similar programs (World Bank, 2000). Finally, the PROPER ranking is an accurate measure of firms' environmental performance (see García et al., 2009).

There are several theoretical reasons for expecting that political connections would have a different effect on the environmental performance of Sharia-compliant firms compared to non-Sharia-compliant firms. First, politically connected firms have greater access to capital (Claessens et al., 2008) and more ability to borrow from banks (Fu et al., 2017; Ling et al., 2016). Therefore, they have higher leverage than their non-connected counterparts (Bliss and Gul, 2012; Chkir et al., 2020; Faccio, 2010). This would assist firms by easing the financial constraints on environmental investments, lowering the cost of capital associated with environmental investments, and encouraging them to adopt good environmental practices. Conversely, according to the Financial Service Authority (OJK),[2] Sharia screening restricts firms from having higher debt—particularly interest-based debt. In addition, Sharia screening means

[1] For more details, see https://proper.menlhk.go.id/proper/kriteria

[2] OJK Regulation Number 35/POJK.04/2017 on the Criteria and Issuance of the Sharia Securities List: To be considered as Sharia compliant, a firm has to meet financial screening ratios as follows: a) their total interest-based debt compared to their total assets should not exceed 45%, and b) their total interest income and non-*halal* income compared to their total operating income and other income should not exceed 10%.

that Sharia-compliant firms have lower leverage (Hayat and Hassan, 2017). Second, political connections generally exist in countries with high-level corruption and a weak legal system (Faccio, 2006). Moreover, political connections motivate tunneling (Hu et al., 2020) and may facilitate firms bribing government officials to avoid environmental regulations and penalties (Zhang, 2017). Conversely, Sharia-compliant firms must carry out their business using only *halal*[3] methods and based on ethical activities (Hassan and Harahap, 2010).

To the best of our knowledge, this is the first study to examine the impact of political connections on Sharia-compliant firms' environmental performance. Our work makes a novel contribution to the literature on corporate environmental performance by showing that political connections matter in enhancing the environmental performance of non-Sharia-compliant firms. Conversely, for Sharia-compliant firms, political connections seem less valuable in enhancing their environmental performance.

The remainder of this paper is structured as follows. Section 2 describes the research data and methodology. Section 3 presents the empirical results, discussion, and robustness checks. Finally, Section 4 provides the concluding remarks of this study.

2. Data and methodology

2.1. Sample selection

We use a unique sample of firms with high potential impact on the environment and selected by the Ministry of Environment and Forestry of The Republic of Indonesia for coverage under the PROPER program over the 2013 to 2019 period. We restrict our sample to all listed firms in the Indonesia Stock Exchange (IDX) with available data. Finally, our sample consists of 261 Sharia-compliant firm-year observations and 119 non-Sharia-compliant firm-year observations[4].

2.2. Variable definition

2.2.1. Dependent variable: Corporate environmental performance

We measure corporate environmental performance based on the PROPER rankings made by the Ministry of Environment. PROPER rankings use five color codes, i.e., gold, green, blue, red, and black, indicating the best to the poorest environmental performance. We use a score for each PROPER rank, as presented in Table 1.

Table 1. PROPER rank.

PROPER rank	Definition	Score
Gold	The firms have consistently demonstrated environmental excellence in the production process.	5
Green	The firms have carried out environmental management beyond compliance with the laws.	4
Blue	The firms have performed environmental management that met with the laws.	3
Red	The firms have made some environmental management efforts but failed to meet the requirements stipulated in the laws.	2
Black	The firms have been negligent in a manner that caused environmental pollution (violated the law).	1

[3] *Halal* is permissible by Islamic law. In this regard, corruption and bribery are *haram* (prohibited by Islamic law).

[4] We define a Sharia-compliant firm as a firm with Sharia stocks (i.e., one listed on the Indonesia Sharia Stock Index [ISSI]).

The Ministry of Environment evaluated and awarded PROPER ranks based on operating facilities such as manufacturing plants. Therefore, firms with more than one facility can earn more than one PROPER rank. We averaged the score for firms that have more than one PROPER rating using the following formula:

$$\overline{CEP} = \frac{\sum_{i=1}^{n} k_i P_i}{\sum_{i=1}^{n} k_i}, \quad \text{..... (1)}$$

where *CEP* is corporate environmental performance (i.e., the average PROPER score), k_i is the number of PROPER ranks assigned to each firm, and P_i is the PROPER score. The data on PROPER ranks are taken from the Ministry of Environment.[5]

2.2.2. Independent variable: Political connections

The independent variable is political connections, defined as a politically connected firm. According to Faccio (2006) and Habib et al. (2017), a firm is considered politically connected if the larger shareholders (ownership of more than 10%) or the top management are currently or formerly a) members of parliament, b) ministers or heads of local government, or c) people who have close relationships with top officials.

$$\text{Political connections} = \begin{cases} 1, & if\ politically\ connected\ firm, \\ 0, & otherwise. \end{cases}$$

Data on political connections are extracted manually from firms' annual reports.

2.2.3. Control variables

We include several firm-level variables in our analysis to control for various factors that may be relevant to corporate environmental performance. In particular, we include firm size, firm age, leverage, ROA, and growth. The natural logarithm of total assets measures firm size. Firm age represents the number of years since a firm was incorporated. Leverage is calculated by the sum of the total short-term and total long-term debt divided by total assets. Meanwhile, ROA is measured by the ratio of net income divided by total assets. Finally, we use the growth rate of the firm's total assets over the last fiscal year (growth). The data for the control variables are collected from the firms' financial reports and annual reports.

2.3. Model specification

We employ a regression analysis to investigate the impact of political connections on corporate environmental performance. The regression model is given below:

$$CEP_{i,t} = \alpha + \beta_1 PC_{i,t} + \beta_2\ Controls_{i,t} + Industry + Year + \varepsilon, \quad \text{..... (2)}$$

where $CEP_{i,t}$ is corporate environmental performance, $PC_{i,t}$ is political connections; $Controls_{i,t}$ are the control variables, i.e., firm size (*FS*), firm age (*FA*), leverage (*Lev*), return on assets (*ROA*), and growth. Furthermore, we take industry and year fixed effects into consideration in our regression model.

[5] Regulation of the Minister of Environment concerning the firms' PROPER rating, which is published annually.

3. Empirical results and discussions

3.1. Descriptive statistics

The descriptive statistics of the main variables are presented in Table 2. Approximately 63.60% of the Sharia-compliant sample and 63.03% of the non-Sharia-compliant sample are politically connected firms. The mean difference in corporate environmental performance between Sharia-compliant firms and non-Sharia-compliant firms is insignificant. Although we expect that Sharia-compliant firms should have higher environmental performance than non-Sharia-compliant firms, we do not find evidence of this. Furthermore, because of Sharia financial screening, Sharia-compliant firms have lower leverage than non-Sharia-compliant firms.

Table 2. Descriptive statistics.

Variables	Mean		S.D.		Difference
	SCF	NSCF	SCF	NSCF	*t*-Test
CEP	3.069	3.030	0.475	0.401	0.823
PC	0.636	0.630	0.482	0.485	0.108
FS	29.630	29.324	1.329	1.580	1.837*
FA	43.490	50.160	19.056	22.965	–2.764***
Lev	0.406	0.605	0.290	0.506	–3.991***
ROA	6.920	7.736	7.887	14.148	–0.589
Growth	0.105	0.112	0.257	0.215	–0.247

Note: *** $p < 1\%$ and * $p < 10\%$. SCF is Sharia-compliant firms, whereas NSCF is non-Sharia-compliant firms. The *t*-test measures the mean differences of all variables between Sharia-compliant firms and non-Sharia-compliant firms.

Table 3 reports the correlations among corporate environmental performance, political connections, and the control variables. The correlation coefficient of all variables does not exceed 0.8, indicating that multicollinearity is not an issue in our analysis.

Table 3. Correlation matrix.

Panel A: Sharia-compliant firms							
	CEP	PC	FS	FA	Lev	ROA	Growth
CEP	1						
PC	0.188*	1					
FS	0.335*	0.290*	1				
FA	0.268*	0.098	0.181*	1			
Lev	–0.031	–0.048	0.064	–0.009	1		
ROA	0.148	0.112	0.210*	0.351*	0.040	1	
Growth	–0.033	–0.024	0.000	–0.066	0.089	0.055	1
Panel B: Non-Sharia-compliant firms							
	CEP	PC	FS	FA	Lev	ROA	Growth
CEP	1						
PC	0.261*	1					
FS	–0.000	0.241*	1				
FA	0.185	0.323*	0.110	1			
Lev	–0.048	0.110	–0.105	–0.288*	1		
ROA	0.063	0.222	0.090	0.772*	–0.384*	1	
Growth	0.005	0.113	0.042	–0.030	–0.162	0.172	1

Note: * Indicates statistical significance at the 1% level.

3.2. Baseline results

Table 4 presents the results of our baseline analysis. Columns (1) through (3) of Table 4 report that political connections have a positive but insignificant impact on the environmental performance of Sharia-compliant firms. Meanwhile, for non-Sharia-compliant firms (Columns (4) through (6) of Table 4), their environmental performance is impacted positively and significantly by political connections. These results remain robust after adding both industry and year fixed effects.

Table 4. Baseline results.

Variables	Sharia-compliant firms			Non-Sharia-compliant firms		
	(1)	(2)	(3)	(4)	(5)	(6)
Intercept	–0.074	–0.873	–0.912	3.364***	3.680***	3.665***
	(–0.08)	(–0.74)	(–0.77)	(2.63)	(3.32)	(3.17)
PC	0.083	0.037	0.035	0.212*	0.277*	0.311**
	(1.17)	(0.68)	(0.61)	(1.85)	(1.90)	(2.16)
FS	0.098***	0.119***	0.121***	–0.020	–0.022	–0.026
	(3.20)	(3.20)	(3.17)	(–0.45)	(–0.58)	(–0.71)
FA	0.005	0.005**	0.006**	0.005*	–0.000	–0.002
	(1.52)	(2.09)	(2.12)	(1.90)	(–0.01)	(–0.43)
Lev	–0.068	–0.037	–0.027	–0.075	–0.041	–0.077
	(–0.90)	(–0.72)	(–0.49)	(–0.90)	(–0.70)	(–1.14)
ROA	0.001	0.002	0.001	–0.006	–0.007*	–0.006
	(0.15)	(0.42)	(0.26)	(–1.53)	(–1.76)	(–1.58)
Growth	–0.027	–0.009	0.003	0.019	–0.034	0.041
	(–0.48)	(–0.16)	(0.04)	(0.18)	(–0.30)	(0.35)
Industry	No	Yes	Yes	No	Yes	Yes
Year	No	No	Yes	No	No	Yes
Obs.	261	261	261	119	119	119
R^2	0.166	0.236	0.246	0.105	0.156	0.214

Note: *** $p < 1\%$, ** $p < 5\%$, and * $p < 10\%$. The figures in brackets are t statistics.

Political connections are less valuable in enhancing environmental performance for Sharia-compliant firms compared to non-Sharia-compliant firms. A plausible reason is that political connections run contrary to Islamic ethics. In Indonesia, political connections are closely related to rent-seeking behaviors (e.g., bribery) (Apriliyanti and Kristiansen, 2019). In addition, cases of bribery by firms seeking to avoid compliance with environmental regulations occur commonly in Indonesia (Dethier, 2017; Kuncoro, 2006). Conversely, compliance with Islamic principles (Sharia) prohibits bribery. It is reasonable that Sharia-compliant firms should be less flexible in establishing political connections. Hence, for Sharia-compliant firms, the benefits of having connections to politicians in enhancing environmental performance may not outweigh the cost of establishing those connections. Meanwhile, non-Sharia-compliant firms do not have obligations to comply with Islamic law. Hence, they are more flexible in establishing connections to politicians and can benefit from these connections in increasing their environmental performance. These findings align with previous studies demonstrating the positive impact of political connections on firms' environmental performance (e.g., Lin et al., 2015; Zhang, 2017; Zhang et al., 2019) and the recent research by Wahyono (2023) that found political connections to be less beneficial for Sharia-compliant firms but more so for non-Sharia-compliant firms.

3.3. Robustness check

Following Jacobs et al. (2010), we use environmental certification (i.e., ISO 14001 certification) as an alternative proxy for corporate environmental performance. The environmental certification is a dummy variable equal to 1 if the firm is ISO 14001 certified and

0 otherwise. We then repeat Eq. (2) using the panel logit model with environmental certification as the dependent variable.

Table 5. Robustness check using ISO 14001 certification as the dependent variable.

Variables	Sharia-compliant firms			Non-Sharia-compliant firms		
	(1)	(2)	(3)	(4)	(5)	(6)
Intercept	–64.765**	–139.303***	–108.695***	–11.600	–4.254	0.862
	(–2.14)	(–4.18)	(–4.19)	(–0.62)	(–0.23)	(0.06)
PC	1.526	1.418	3.254	6.249**	5.703***	6.106***
	(0.86)	(0.88)	(1.45)	(2.69)	(2.66)	(3.22)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry	No	Yes	Yes	No	Yes	Yes
Year	No	No	Yes	No	No	Yes
Obs.	261	261	261	119	119	119

Note: *** $p < 1\%$, ** $p < 5\%$, and * $p < 10\%$. The figures in brackets are z statistics.

Table 5 reports that political connections are associated insignificantly with the environmental performance of Sharia-compliant firms. Meanwhile, for non-Sharia-compliant firms, political connections are significantly associated with environmental performance, indicating that politically connected non-Sharia-compliant firms are likely to have better environmental performance than those without political connections. These results are basically consistent with our baseline analysis and, indeed, support it.

4. Concluding remarks

This study examines the impact of political connections on the environmental performance of Sharia-compliant firms and non-Sharia-compliant firms. We first prove that, for Sharia-compliant firms, political connections play less of a role in increasing environmental performance. Sharia-compliant firms may establish connections to politicians carefully so as not to violate Islamic law. Second, non-Sharia-compliant firms benefit from their connections in enhancing their environmental performance. Non-Sharia-compliant firms may be more flexible in forming connections to the politicians because they are not bound by Islamic law. These findings offer recommendations for firms, especially Sharia-compliant firms. Political connections seem to be of limited value to Sharia-compliant firms in enhancing their environmental quality. Therefore, when Sharia-compliant firms choose to establish political ties with the government, they should consider the specific functions of their connections. They should consider objectively whether establishing political connections will actually improve their environmental performance.

References

Apriliyanti, I.D., Kristiansen, S.O. (2019) "The logics of political business in state-owned enterprises: the case of Indonesia" *International Journal of Emerging Markets* **14**, 709–730.

Bliss, M.A., Gul, F.A. (2012) "Political connection and cost of debt: Some Malaysian evidence" *Journal of Banking & Finance* **36**, 1520–1527.

Chkir, I., Imen, M., Toukabri, M. (2020) "Political connections and corporate debt: Evidence from two U . S . election campaigns" *The Quarterly Review of Economics and Finance* **75**, 229–239.

Claessens, S., Feijen, E., Laeven, L. (2008) "Political connections and preferential access to finance: The role of campaign contributions" *Journal of Financial Economics* **88**, 554–580.

Dethier, J.J. (2017) "Trash, cities, and politics: Urban environmental problems in Indonesia. Indonesia" 73–90.

Faccio, M. (2006) "Politically Connected Firms" *American Economic Review* **96**, 369–386.

Faccio, M. (2010) "Differences between Politically Connected and Nonconnected Firms: A Cross-Country Analysis" *Financial Management* **39**, 905–927.

Florackis, C., Fu, X., Wang, J. (2023) "Political connections, environmental violations and punishment: Evidence from heavily polluting firms" *International Review of Financial Analysis* **88**.

Fu, J., Shimamoto, D., Todo, Y. (2017) "Can firms with political connections borrow more than those without? Evidence from firm-level data for Indonesia" *Journal of Asian Economics* **52**, 45–55.

García, J.H., Afsah, S., Sterner, T. (2009) "Which firms are more sensitive to public disclosure schemes for pollution control? Evidence from Indonesia's PROPER program" *Environmental and Resource Economics* **42**, 151–168.

García, J.H., Sterner, T., Afsah, S. (2007) "Public disclosure of industrial pollution: The PROPER approach for Indonesia?" *Environment and Development Economics* **12**, 739–756.

Habib, A., Haris, A., Jiang, H. (2017) "Political Connections and Related Party Transactions: Evidence from Indonesia" *The International Journal of Accounting* **52**, 45–63.

Hassan, A., Harahap, S.S. (2010) "Exploring corporate social responsibility disclosure: the case of Islamic banks" *International Journal of Islamic and Middle Eastern Finance and Management* **3**, 203–227.

Hayat, R., Hassan, M.K. (2017) "Does an Islamic label indicate good corporate governance?" *Journal of Corporate Finance* **43**, 159–174.

Hu, Y., Wang, C., Xiao, G., Zeng, J. (2020) "The agency cost of political connections: Evidence from China's File 18" *Pacific-Basin Finance Journal* **64**.

Jacobs, B.W., Singhal, V.R., Subramanian, R. (2010) "An empirical investigation of environmental performance and the market value of the firm" *Journal of Operations Management* **28**, 430–441.

Kuncoro, A. (2006) "Corruption and Business Uncertainty in Indonesia" *ASEAN Economic Bulletin* **23**, 11–30.

Lin, H., Zeng, S.X., Ma, H.Y., Chen, H.Q. (2015) "How Political Connections Affect Corporate Environmental Performance: The Mediating Role of Green Subsidies" *Human and Ecological Risk Assessment: An International Journal* **21**, 2192–2212.

Ling, L., Zhou, X., Liang, Q., Song, P., Zeng, H. (2016) "Political connections, overinvestments and firm performance: Evidence from Chinese listed real estate firms" *Finance Research Letters* **18**, 328–333.

Wahyono, B. (2023) "Do political connections affect the market reaction to firms' inclusion in or exclusion from the Sharia index?" *Eurasian Business Review*, forthcoming.

Wang, Z., Fu, H., Ren, X. (2023) "Political connections and corporate carbon emission: New evidence from Chinese industrial firms" *Technological Forecasting and Social Change* **188**.

World Bank (2000) *Greening industry: New roles for communities, markets and governments*, Oxford University Press. New York.

Xiao, G., Shen, S. (2022) "To pollute or not to pollute: Political connections and corporate environmental performance" *Journal of Corporate Finance* **74**.

Zhang, C. (2017) "Political connections and corporate environmental responsibility: Adopting or escaping?" *Energy Economics* **68**, 539–547.

Zhang, C., Liu, Q., Ge, G., Hao, Y., Hao, H. (2021) "The impact of government intervention on corporate environmental performance: Evidence from China's national civilized city award" *Finance Research Letters* **39**.

Zhang, L., Ye, F., Yang, L., Zhou, G. (2019) "Impact of Political Connections on Corporate Environmental Performance: From a Green Development Perspective" *Sustainability* **11**.