CORPORATE GOVERNANCE AND SOCIAL RESPONSIBILITY EMPIRICAL EVIDENCE FROM VIETNAMESE OIL AND GAS ENTERPRISES

Vu Thi Phuong Thao[1], Hoang Thi Mai Anh[2], Nguyen Thi Van Anh[3]

[1,2,3]Faculty of Accounting and Business, Thuyloi University, Vietnam

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Abstract: In the modern business environment, corporate social responsibility emphasizes ethical behavior, transparency and accountability. For effective corporate governance, ensuring a diverse, independent board of directors and engaging with stakeholders, including shareholders, employees, customers and the community, is essential. In the oil and gas industry, CSR plays a particularly important role because businesses operate in an environment with high risks to the environment, occupational safety and community relations. Using STATA 17 software, the author found three factors that positively affect (Board size, Audit, Profitability) and one factor that negatively affects the level of information disclosure on social responsibility at Vietnamese oil and gas enterprises.

Keywords: Corporate social responsibility, corporate governance, Board

1. Research overview

Corporate social responsibility (CSR) is a concept that describes the commitments and actions that businesses take to contribute to sustainable development, not only through making profits, but also through improving social issues and protecting the environment (Carroll, 1999). CSR is not only related to compliance with legal regulations but also includes voluntary actions of businesses to meet the expectations of communities, customers, investors, and other stakeholders (Bowen, 1953). The goal of CSR is to make businesses operate not only for their own benefit but also for the benefit of society and the environment, thereby enhancing the reputation and brand value of the company (Porter & Kramer, 2006).

CSR is a concept that includes four levels: (i) economic responsibility, (ii) legal responsibility, (iii) ethical responsibility and (iv) philanthropic responsibility. According to Carroll (1999), businesses are not only responsible for making profits but also must comply with legal regulations and carry out activities that benefit the community, including protecting the environment and improving people's living conditions.

CSR includes many different forms, from environmental protection activities, improving public health, supporting education to community development and humanitarian programs. Enterprises implement CSR through voluntary strategies and integrate them into their overall business strategies to ensure benefits for society without affecting their own economic development. This not only enhances the image and reputation of the enterprise but also increases customer loyalty, improves relations with investors and the community (Porter & Kramer, 2006; Wang & Sarkis, 2017). In addition, CSR plays an important role in strengthening the trust of stakeholders, helping enterprises maintain and develop sustainable relationships, creating value not only for the enterprise but also for the community and society.

Corporate Governance (CG) is a system of rules, processes, and relationships between stakeholders in a company, including shareholders, the board of directors, management, and other stakeholders such as employees, customers, investors, and the community. The goal of corporate governance is to ensure that the company operates effectively, transparently, and responsibly to its stakeholders, while protecting the interests of shareholders and other stakeholders (VietnamBiz, 2019).

The Board of Directors (BOD) plays an important role in strategic planning, monitoring and ensuring CSR implementation. In particular, the size of the BOD is one of the factors that directly affects the level of

commitment and effectiveness of CSR implementation. Previous studies have shown that the size of the BOD can affect the ability to monitor, transparency and the level of response to stakeholders in CSR implementation (Bear, Rahman & Post, 2010; Edinger-Schons et al., 2020).

Ntim et al. (2013) also found a link between board size and CSR, in which companies with larger boards tend to have a stronger commitment to CSR due to pressure from stakeholders and shareholders. On the other hand, if the board is too large, decision-making may take longer, causing delays in CSR implementation and reducing business performance (Jensen, 1993). At the same time, research by Pekovic and Vogt (2021) also emphasized that companies with a board size appropriate to the scale of operations can optimize the benefits of CSR in the long term. Therefore, businesses need to find a balance in board size, ensuring that the number of members is sufficient to closely monitor CSR activities but not too large to avoid reducing flexibility and efficiency in the decision-making process.

A clear separation of roles between the CEO and the Chairman of the Board of Directors is an important element of corporate governance. When the CEO also serves as the Chairman of the Board of Directors, power may be over-concentrated, reducing oversight over strategic decisions, including those related to CSR. Separating the two positions will help enhance oversight, ensure more appropriate strategic decisions, thereby supporting the implementation of the company's sustainable development goals. Research by Wang and Dewhirst (1992) shows that the CEO and Chairman of the Board of Directors' duality can reduce the company's transparency and accountability, thereby negatively affecting CSR activities.

Dual CEOs tend to make decisions that benefit themselves or their interest groups rather than taking into account the long-term interests of society. This can lead to CSR becoming a tool to improve their image rather than creating a real positive impact. Ntim and Soobaroyen (2013) found that in companies where the CEO has a high level of control on the board, the level of transparency and accountability in CSR activities tends to decrease, increasing the risk of ethical and legal risks. Conversely, when the two positions are separate, companies tend to implement CSR strategies more effectively due to the independent oversight from the board.

In contrast, Garas et al. (2018) found that duality enhances unity of command, i.e. when the CEO also serves as the Chairman of the Board. This study also confirmed that duality has a significant impact on CSR disclosure in the GCC region. Therefore, this board characteristic plays an important role in bridging the legitimacy gap through transparency of environmental and social information.

CEO and board members have both benefits and risks to CSR implementation. In some cases, it can help promote a stronger and more effective CSR strategy thanks to centralized authority and a unified governance direction. However, without independent oversight mechanisms, it can also reduce corporate transparency and accountability, leading to CSR activities that are more cosmetic or serve personal interests than real social benefits. According to Bear, Rahman, and Post (2010), increasing the proportion of women on the board of directors not only improves CSR ratings but also contributes to improving customer satisfaction and corporate reputation. Women in leadership roles tend to be more sensitive to ethical and social considerations, thereby promoting stronger CSR activities. Furthermore, Francoeur, Labelle, and Sinclair-Desgagné (2008) also found that companies with a high proportion of women on the board of directors tend to have higher levels of transparency and social responsibility than companies with boards of directors consisting of only men.This is because gender diversity plays an important role in improving the effectiveness of monitoring and making long-term strategic decisions that benefit all stakeholders. Research by Post, Rahman, and Rubow (2011) shows that companies with more female directors tend to have more sustainable and long-term CSR strategies, rather than focusing only on short-term profits. In addition, research by Adams and Ferreira (2009) also shows that gender diversity improves the quality of board discussions, leading to more inclusive and equitable CSR decisions.

The size of a company, often measured by total assets, is one of the key factors that influence the level of CSR implementation. The size of a company, measured by total assets, has a significant impact on the level of CSR implementation. Studies show that large companies often have more financial and human resources, which facilitates them to implement CSR activities more effectively than small companies. Because of their size, these companies are also able to fund sustainable development initiatives, environmental protection programs, and community support.

According to Udayasankar (2008), larger companies tend to engage in more CSR due to the need to satisfy the demands of shareholders, investors and strict legal regulations. These companies are not only closely monitored but also have to demonstrate a clearer and stronger social responsibility in their activities. In agreement with this view, Brammer & Pavelin (2008) also pointed out that large-scale enterprises often have a higher level of CSR information disclosure than small enterprises because they are under more pressure from governments and international financial institutions. This suggests that large enterprises need to maintain more transparency and accountability in CSR activities to protect their image and reputation.

Profitability reflects the ability of a company to generate profits to maintain long-term sustainable growth and short-term expansion. This is an important indicator to evaluate the level of success of a company, and is often used by investors as a tool to determine the financial situation of a company, thereby deciding whether to invest in shares of a particular company or not. Some opinions suggest that profitability has a positive relationship with the level of disclosure of information on social responsibility, because when a company has high profitability, managers have more conditions to perform well on social responsibility activities. The purpose of disclosing information on social responsibility is to provide investors with signals about the company's ability to perform social responsibility.

The expectation of ROA with CSR is a positive relationship, because a profitable enterprise usually has better financial resources to invest in CSR activities. According to the study of Mahadeo et al. (2011), highly profitable companies tend to perform more CSR to enhance their reputation and maintain positive relationships with stakeholders. Therefore, it can be expected that the higher the ROA, the greater the level of CSR engagement of the enterprise.

Financial leverage is a tool that helps investors borrow capital, expanding investment opportunities with the goal of maximizing profits, based on the expectation that the value of assets will increase beyond the cost of borrowing, bringing a higher rate of return. However, the impact of financial leverage on corporate social responsibility disclosure is still a controversial topic.

The relationship between financial leverage ratio (LEV) and CSR is often inverse, as highly leveraged firms often face high debt repayment pressures, which limits their ability to devote resources to CSR activities. According to Appuhami and Tashakor (2017), firms with high debt levels often prioritize financial optimization over investing in social or environmental activities. Therefore, it can be predicted that as LEV increases, the level of corporate CSR engagement will decrease.

Auditing firms have a positive impact on the level of corporate social responsibility (CSR) disclosure by listed companies on the Vietnamese stock market. Specifically, the use of auditing services from reputable auditing firms, especially the "Big Four" group including Deloitte, EY, KPMG and PwC, contributes to improving the transparency and reliability of financial information, thereby encouraging businesses to disclose information on social responsibility more fully and in detail.

Studies from Deloitte (2017) and KPMG (2020) highlight that independent audits improve the quality of CSR reporting, reduce the risk of fraud, and enhance stakeholder trust. However, challenges remain in ensuring the quality of CSR reporting amid pressure from investors and NGOs.

The oil and gas industry plays a vital role in the global economy, providing vital energy for many different sectors and activities. However, the industry also faces many major challenges, including environmental issues, social impacts and governance issues. In this context, the theoretical frameworks of CG and CSR become important tools to help address these challenges and promote sustainable development in the industry. CG focuses on principles, practices and processes to guide, control and ensure accountability, transparency and ethical behavior in businesses. Meanwhile, CSR involves integrating social and environmental factors into business operations, not only to comply with regulations but also to contribute to the common prosperity of society and the environment.

2. Research methods

Research data: Secondary data on influencing factors were collected from financial reports and sustainability reports of oil and gas enterprises listed on the stock exchange in Vietnam during the period 2020-2024.

Research Hypothesis

Through the theoretical basis and research overview, the authors propose a number of research hypotheses as follows:

H1: Board size positively affects CSR
H2: Concurrent positions negatively affect CSR
H3: Gender diversity in the board of directors positively affects CSR
H4: Enterprise size positively affects CSR
H5: Profitability positively affects CSR
H6: Financial leverage negatively affects CSR
H7: Auditing firm positively affects CSR

From the preliminary research hypotheses presented above, the authors propose the following detailed model:

$$CSRDI = \beta 0 + \beta 1BSIZE + \beta 2CEO + \beta 3GENDER + \beta 4FSIZE + \beta 5ROA + \beta 6LEV + \beta 7AUDIT + \varepsilon i$$

In which:

Measuring the dependent variable - Corporate social responsibility CSR
In this study, based on the GRI (Global reporting Initiative) Sustainability Reporting Guidelines and the regulations in Circular No. 96/2020/TT-BTC of the Ministry of Finance promulgating the Guidelines for Disclosure of Information on the Stock Market, the authors built a list of CSR information and conducted research, including 17 information items divided into the following 3 main information groups:

i) Environmental information: Includes 11 information items;
ii) Employee information: Includes 4 information items;
iii) Information on community and social responsibility: Includes 2 information items

The level of disclosure of information on corporate social responsibility is through the following index:

The indicator scores are calculated specifically as follows: 0 points - Not published; 1 point - Indicators are published but incomplete and have no data (qualitative); 2 points - Indicators are published with data (quantitative) but have short capacity; 3 points - Indicators are published with full content and have data (quantitative). Through the above measurement method, the maximum score that an enterprise can achieve in a year is 51.

Table 3.1. List of social responsibility information disclosure indicators

Aspect	criteria
Environmental information	Total greenhouse gas emissions
	Initiatives and measures to reduce greenhouse gas emissions
	Total amount of raw materials used for production
	Report the percentage of recycled materials used
	Energy consumption
	Energy saved through energy efficiency initiatives
	Energy saving initiative reports
	Water supply and water usage
	Percentage and total amount of water recycled and used
	Number of times fined for non-compliance with environmental laws and regulations
	Total amount of fines imposed for non-compliance with environmental laws and

	regulations
Information about employees	Number of employees, average salary
	Labor policy to ensure health, safety and welfare for workers
	Employee training activities: number of training hours, training subjects
	Employee training activities: skills development programs, career development
Information on community and social responsibility	Community investment activities and other community development activities, including financial support for community service
	Applying international reporting standards in Sustainable Development reporting

(Source: Circular 96/2020/TT-BTC - - Guidance on information disclosure on the stock market)

Measuring Independent Variables

Based on previous studies, the authors propose to include 7 independent variables: (1) Board size, (2) Concurrent tenure, (3) Gender diversity in the board of directors, (4) Enterprise size, (5) Profitability, (6) Financial leverage, (7) Auditing

Table 3.2. Independent variables

Name	Interpretation	**Measuring**
BSIZE	Board size	Total number of members in the Board of Directors
CEO	Concurrent work	Dummy variable equal to 1 if a member of the Board of Directors concurrently holds the position of General Director, equal to 0 otherwise.
GENDER	Gender diversity on the board of directors	Number of female members in the Board of Directors
FSIZE	Firm size	Natural logarithm of total assets
ROA	Profitability	Ratio of profit after tax to total assets
LEV	Financial leverage	Debt to total assets ratio
AUDIT	Audit	Dummy variable equal to 1 if the auditing firm is in Big4, equal to 0 if not in Big4

4. Research results

Table 4.1. Descriptive statistics of variables in the model

VarName	**Obs**	**Mean**	**SD**	**Min**	**Max**
BSIZE	128	5.5625	1.2279	3	8
CEO	128	0.875	0.3320	0	1
GENDER	128	0.6171	0.8047	0	3
FSIZE	128	10.040	20.835	7.53	88.446
AUDIT	118	0.3305	0.4724	0	1
ROA	128	2.3595	8.5774	-73.7421	32.3792
LEV	128	37.8266	50.3901	0.1804	504.5455
CSR	131	12.5725	10.4211	0	38

(Source: Author's calculation)

With the database collected from Vietnamese oil and gas enterprises in the period 2020 - 2024, the descriptive statistics table provides an overview of the research variables used in the analytical model. Variables such as BSIZE, CEO, GENDER, and FSIZE all show clear fluctuations, reflecting the diversity in the governance structure of oil and gas enterprises. Specifically:

BSIZE ranges from 3 to 8 members, with an average of 5.56, indicating that there is variation among oil and gas companies in the number of board members. Some companies have small boards, while others have many members. Board size may influence a company's CSR strategy, as companies with larger boards are more likely to make sustainable strategic decisions and have a stronger commitment to social responsibility.

CEO has an average value of 0.875, with a standard deviation of 0.33, ranging from 0 to 1. This may lead to the concentration of CEO power, reducing the board's independent oversight of CEO decisions, thereby affecting the transparency of CSR strategies.

GENDER has a mean of 0.618, with a standard deviation of 0.80, ranging from 0 to 3. This shows that the proportion of women on the Board of Directors of oil and gas enterprises is still quite low. This ratio can affect CSR strategies, especially in promoting gender equality and sustainable development initiatives.
FSIZE has an average of VND 10,400 billion, but a very large standard deviation (20,835), showing significant differences in size between enterprises. This shows that larger enterprises may have more resources to implement CSR projects related to environmental protection and sustainable development.

ROA has an average of 2.36%, but ranges from -73.74% to 32.38%, reflecting the strong cyclical nature of the oil and gas industry, with profits heavily dependent on world oil prices.

LEV has an average of 37.83%, but has a maximum value of up to 504.54%, indicating that oil and gas enterprises can use significant debt to finance long-term projects.

Based on the statistical levels and correlation matrix analysis in the table, the Pearson Correlation test shows the relationship between the research variables with the statistical testing criteria as follows:

Table 4.2. Correlation matrix between variables

VarName	CSR	BSIZE	CEO	GENDER	FSIZE	AUDIT	ROA	LEV
CSR	1							
BSIZE	0.3979	1						
CEO	-0.5210	0.106	1					
GENDER	-0.2436	0.173	-0.2104	1				
FSIZE	0.3593	0.2795	0.4100	-0.2763	1			
AUDIT	0.5879	0.2237	0.2473	-0.4177	0.6763	1		
ROA	0.3534	0.0455	-0.0023	-0.0265	0.1540	0.1084	1	
LEV	0.1142	0.0313	0.1398	-0.1382	0,2122	0.2628	0.2045	1

(Source: Author's calculation)

The CSR variable has a positive correlation with the variables BSIZE, CEO, FSIZE, AUDIT, ROA and LEV. The variables FSIZE and AUDIT have a medium to high correlation with CSR, with correlation coefficients of 0.3593 and 0.4879, respectively. Meanwhile, the variables BSIZE, CEO, ROA, LEV have a low or very low, insignificant correlation with CSR. Meanwhile, the variable GENDER has a negative correlation with CSR. The correlation coefficient between the variable GENDER and CSR is -0.2436, which means the correlation is low and insignificant.

3.2. Model testing results

To select the model, the authors conducted OLS, Fixed Effect and Random Effect regressions

Table 4.3. Estimation results on the OLS regression model

VARIABLES	(1) CSR
BSIZE	0.438**
	(0.976)
CEO	-7.136**
	(3.036)
GENDER	-0.456
	(1.669)
FSIZE	0.000253
	(0.000189)
AUDIT	15.31***
	(4.385)
ROA	0.174**
	(0.0696)
LEV	0.000554
	(0.0147)
Constant	10.79*
	(5.974)
Observations	114
Number of stt_Cty	27
R-squared	0.232

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
(Source: Author's calculation)

Table 4.4. FEM regression model results

VARIABLES	(1) CSR
BSIZE	0.655**
	(0.979)
CEO	-7.069***
	(3.033)
GENDER	-0.601
	(1.672)
FSIZE	4.105
	(2.915)
AUDIT	14.97***
	(4.377)
ROA	0.190***

	(0.0692)
LEV	0.0192
	(0.0203)
Constant	-16.56
	(21.56)
Observations	114
Number of stt_Cty	27
R-squared	0.233

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
(Source: Author's calculation)
Consider Prob > F = 0.0000. < 0.05 => FEM model is more suitable than OLS model

Table 4.5. Results of REM regression model

VARIABLES	**(1)** **CSR**
BSIZE	0.513**
	(0.783)
CEO	-7.396***
	(2.642)
GENDER	-0.875
	(1.327)
FSIZE	0.266
	(0.688)
AUDIT	11.12***
	(3.046)
ROA	0.171**
	(0.0672)
LEV	-0.00197
	(0.0138)
Constant	12.65**
	(5.996)
Observations	114
Number of stt_Cty	27

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
(Source: Author's calculation)

Then use Hausman test to choose the appropriateness between FEM and REM models
Hypothesis:
H0: there is no difference between FEM and REM models
H1: there is a difference between FEM and REM models

Table 4.6. Hausman test results

	(b) fe	(B) re	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
BSIZE	0.6548	0.5131	0.1418	0.5881
CEO	-7.0688	-7.3963	0.3275	1.4897
GENDER	-0.6008	-0.8749	0.2741	1.0169
FSIZE	4.1054	0.2661	3.8393	2.8330
AUDIT	14.9653	11.1180	3.8473	3.1433

	(b) fe	(B) re	(b-B) Difference	sqrt(diag(V_b-V_B)) S.E.
ROA	0.1900	0.1706	0.0194	0.0163
LEV	0.0192	-0.0020	0.0212	0.0149

b = Consistent under H0 and Ha; obtained from xtreg.

B = Inconsistent under Ha, efficient under H0; obtained from xtreg.
Test of H0: Difference in coefficients not systematic

chi2(7) = (b-B)'[(V_b-V_B)^(-1)](b-B)
= 6.58

Prob > chi2 = 0.6738
(Source: Author's calculation)

Because the p-value of Cross-section random is 0.6738 > 5%, it shows that the REM model gives more reasonable results and is used in drawing conclusions.

Check the defects of the REM model:

● Test for heteroscedasticity
Because the REM model is chosen, there is no need to test for heteroscedasticity because it certainly exists.
● Test for multicollinearity

Table 4.7. Results of multicollinearity test

Variable	**VIF**	**1/VIF**
FSIZE	20.82	0.048038
BSIZE	13.32	0.075098
CEO	9.65	0.103654
AUDIT	3.04	0.328919
GENDER	2.16	0.463059
LEV	1.64	0.608010
ROA	1.13	0.881067
Mean VIF	**7.39**	

(Source: Author's calculation)

The results show that the VIF coefficient <10 (Hoang Trong et al., 2008), so the REM model does not have multicollinearity

● Test the autocorrelation phenomenon
Hypothesis:
H0: no autocorrelation phenomenon
H1: autocorrelation phenomenon

Table 4.8. Results of autocorrelation test

	Var	**SD = sqrt(Var)**
CSR	97.61225	9.879891
e	32.804	5.727477
u	39.55288	6.289108

Test: Var(u) = 0

chibar2(01) = 53.38
Prob > chibar2 = 0.0000

(Source: Author's calculation)

The p-value <0.05 indicates the existence of autocorrelation

With the REM model and the existence of autocorrelation, the results are not reliable. The author corrects the autocorrelation on the REM model to ensure the accuracy of the estimated results.

Table 4.9. Correction of autocorrelation on REM

VARIABLES	**(1)** **CSR**
BSIZE	0.153**
	(0.314)
CEO	-9.070***
	(1.789)
GENDER	-0.649
	(0.599)
FSIZE	0.000209
	(1.5805)
AUDIT	7.542***
	(0.812)
ROA	0.0563**
	(0.0475)
LEV	0.00285
	(0.00684)
Constant	17.65***
	(2.561)
Observations	114
Number of stt_Cty	27

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
(Source: Author's calculation)

The results show that:

The Prob(F-statistic) value of the model is 0 < 5%, so the model is statistically significant.

The variables BSIZE, CEO, AUDIT and ROA have an impact on social responsibility in Vietnamese oil and gas enterprises.

The CEO's significant negative impact on CSR suggests that leadership plays an important role. A clear division of roles between the CEO and the Chairman of the Board of Directors is an important element of corporate governance. When the CEO also holds the position of Chairman of the Board of Directors, power can be over-concentrated, leading to a lack of oversight over strategic decisions, including those related to CSR. This is particularly important for Vietnamese oil and gas companies, where social responsibility and environmental protection issues are increasingly becoming strategic factors in the context of sustainable development in the industry.

From this, we can see that this result is similar to the research of Wang and Dewhirst (1992) and Ntim and Soobaroyen (2013). The fact that an individual holds the position of CEO and Chairman of the Board of Directors at the same time can reduce the transparency and accountability of the company, negatively affecting CSR activities. In Vietnamese oil and gas enterprises, the high power control of CEOs who are also members of the Board of Directors can lead to prioritizing short-term profits over sustainable development, increasing the risk of ethical and legal risks and negative impacts on the environment.

In addition, AUDIT has a strong influence on CSR, implying that audited companies tend to have higher CSR. The presence of external auditors plays an important role in monitoring and ensuring the transparency of CSR reports. For Vietnamese oil and gas enterprises, this becomes even more important for Vietnamese oil and gas enterprises, where the requirements for social responsibility, transparency, and compliance with environmental regulations are increasingly emphasized, auditing can help companies ensure compliance with regulations and standards on environmental and community protection. Companies with independent audits will be required to make CSR reports more transparent and accurate, thereby creating trust with shareholders and stakeholders. This also reflects the company's commitment to maintaining ethical standards and social responsibility. Auditing firms have a positive impact on the level of social responsibility disclosure of listed companies on the Vietnamese stock market. Specifically, the use of auditing services from reputable auditing firms, especially the "Big Four" group including Deloitte, EY, KPMG and PwC. Auditing helps Vietnamese oil and gas enterprises to enhance the transparency and reliability of financial information, thereby encouraging enterprises to disclose more complete and detailed information, thereby contributing to the construction of a sustainable and trustworthy business environment. This result is similar to the conclusions from reports from Deloitte (2017) and KPMG (2020), it can be clearly seen that the participation of Big 4 auditing firms in auditing oil and gas enterprises will have a positive impact on reporting and implementation of CSR commitments.

ROA has a positive impact on CSR, indicating that more profitable Vietnamese oil and gas companies tend to invest more in CSR activities. Although this coefficient is small, it still shows a positive relationship between profitability and social strategies. Highly profitable oil and gas companies not only easily implement CSR initiatives but can also invest in green technologies, protect the environment and improve the living conditions of local communities, which is very important in the context of the Vietnamese oil and gas industry facing many environmental and social challenges. Highly profitable firms have abundant financial resources, which enables them to implement CSR initiatives more effectively and sustainably, thereby not only improving operational efficiency but also creating positive impacts on the community. The results of the research team agree with the opinion of Mahadeo et al. (2011), highly profitable firms tend to implement more CSR to enhance their reputation and maintain positive relationships with stakeholders.

Especially for Vietnamese oil and gas enterprises, implementing CSR strategies can help improve relationships with stakeholders, including the community, government and international organizations, and contribute to increasing social acceptance of their business activities. Therefore, it can be expected that the higher the ROA, the greater the level of participation in CSR of the enterprise.

BSIZE has a positive impact on CSR, suggesting that board size has an impact on CSR decisions. Larger boards can make more comprehensive strategic decisions and can cover and address more social issues. Particularly in the oil and gas industry, a large and diverse board can better monitor the implementation of CSR strategies, ensuring that businesses fully comply with environmental and social responsibility standards. According to Udayasankar (2008) research, larger enterprises tend to implement CSR more due to the requirements from shareholders, investors and strict legal regulations. This is especially true for Vietnamese oil and gas enterprises, where large companies such as PVN and international joint ventures are subject to close supervision from the Government, international financial institutions and other stakeholders. Similarly, Brammer & Pavelin (2008) also argued that enterprises with large assets tend to disclose more CSR information due to the pressure of supervision from the Government and international financial institutions. The research results of the research team also support this view.

However, the coefficients of ROA and BSIZE (**$p < 0.05$ due to the ** sign) are relatively small, so the impact on CSR is not too large, although statistically significant. This indicates that in Vietnamese oil and gas enterprises, although the size of the Board of Directors and profitability have a positive impact on CSR, they are not strong and they are not decisive factors in forming CSR strategies of oil and gas enterprises.

Finally, the factors FSIZE, GENDER and LEV are not statistically significant, meaning that they do not have a significant impact on CSR in this model. The lack of impact of these factors may reflect the fact that, for Vietnamese oil and gas enterprises, these factors are not the main factors in influencing the decision of CSR activities. Instead, factors such as duality, transparency in auditing and profitability may have a greater influence in building sustainable and effective CSR strategies.

5. Conclusion

The study showed that a total of 4/7 independent variables CEO, AUDIT, ROA, BSIZE affect the dependent variable of the level of information disclosure on social responsibility of Vietnamese oil and gas enterprises. Of which, 3/7 independent variables have a positive impact (Board size, Audit, Profitability) and 1/7 independent variable has a negative impact (Concurrent position) on the level of information disclosure on social responsibility. We can see that the CEO variable has the highest level of influence, followed by the variables AUDIT and BSIZE, and finally the variable ROA. However, ROA and BSIZE have a not too large level of influence on CSR, although they are statistically significant. In addition, the variables FSIZE, GENDER and LEV are not statistically significant, meaning that they have no impact on CSR in this model.

For Vietnamese oil and gas enterprises, the study will help enterprises perceive social responsibility as well as apply the relationship between factors and the appropriate level of information disclosure on social responsibility to develop enterprises sustainably and voluntarily disclose social responsibility activities. The results show that the clear division of roles between CEO and Chairman of the Board of Directors in Vietnamese oil and gas enterprises is an important factor in corporate governance. When the CEO also holds the position of Chairman of the Board of Directors, power can be over-concentrated, leading to a lack of oversight over strategic decisions, including those related to CSR. Therefore, these two positions need to be separated, which will help increase oversight and make more appropriate strategic decisions, thereby supporting the implementation of CSR strategies more effectively due to independent oversight from the Board of Directors.

One factor that has a positive impact on the disclosure of social responsibility in Vietnamese oil and gas enterprises is the auditing enterprise. Currently, in the world and in Vietnam, large-scale enterprises often tend to use auditing services from reputable and top-quality auditing enterprises. The "Big Four" are the four largest professional service networks in the world: Deloitte, EY, KPMG and PwC. Vietnamese oil and gas enterprises need to choose large, reputable auditing enterprises to enhance their corporate social responsibility. The involvement of Big 4 auditing firms in auditing oil and gas companies not only helps strengthen financial transparency but also encourages these companies to implement CSR initiatives in a substantive manner. These auditing firms, with their experience and international standards, can provide recommendations to help oil and gas companies improve sustainability policies, reduce environmental impacts and enhance social responsibility. Therefore, through auditing activities, oil and gas enterprises not only gain financial benefits but also contribute to environmental protection and community support, thereby creating long-term value for stakeholders.

In addition, the larger the size of the board of directors, the greater the level of disclosure of information on social responsibility; therefore, to improve the level of disclosure of information on social responsibility, oil and gas enterprises should expand the size of the board of directors. The Corporate Governance Principles according to the Best Practices of the State Securities Commission (2019) also states that the board of directors should be odd in number and have a minimum of five members. This number may vary depending on the size, complexity of the enterprise, as well as the business cycle of the enterprise, and which committees need to be established.

In addition, improving profitability can help increase disclosure of social responsibility information at Vietnamese oil and gas enterprises. For example, cost savings from providing emission reduction techniques will help enterprises have more competitive prices; thereby, improving profitability.

For policy agencies, the research results show that the current status of information disclosure on social responsibility of Vietnamese oil and gas enterprises is still very low. One of the basic contents to guide Vietnamese oil and gas enterprises to disclose information on social responsibility is to have a specific list of information and detailed instructions on the implementation of disclosure requirements for each indicator.

In addition, there is an urgent need for a link between the promulgation of regulations and their implementation, especially strengthening the inspection and supervision of oil and gas enterprises that have impacts on the environment. When there is strict inspection and supervision by competent authorities, enterprises are forced to disclose information on social responsibility even though they do not want to, especially information related to the environment.

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