

CORPORATE GOVERNANCE AND CARBON EMISSION DISCLOSURES: EVIDENCE FROM SRI LANKA

Randunu, M. P. M. P., Herath, H. M. M. N. and Wijekoon, W. M. H. N.

Department of Accountancy, Faculty of Commerce and Management Studies

University of Kelaniya, Sri Lanka

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Abstract

The purpose of this study is to investigate whether corporate governance attributes such as Board Size, Board Independence, Audit Committee Independence, and ESG Committee impact carbon emission voluntary disclosures of environmentally sensitive listed companies in Sri Lanka. The sample of the study consists of 29 listed companies of CSE industry groups over the 2016 to 2020 period. Carbon emission disclosures were measured using the carbon disclosure project index checklist developed by Choi et al. (2013). Later, the corporate governance attributes that influence carbon disclosures were examined using panel data regression models. The findings of the study suggested that entities with higher number of directors on their boards were more likely to disclose carbon emission information and Board Independence and Audit committee Independence did not have a significant impact on reporting carbon emission information. Additionally, existence of the ESG Committee in companies had a strong positive impact on the carbon emission reporting and the extent of such disclosures. This study provides valuable insight which would be useful for organizations and regulatory bodies. Such an understanding is crucial for specifying necessary policies that will provide emission reduction practices and policies for entities.

Keywords: Audit Committee Independence, Board Independence, Board Size, Carbon Emission Disclosures, ESG Committee

Corresponding e-mail: maher191@kln.ac.lk

1. Introduction

Global warming and climate change are becoming bigger and bigger problems that could hurt the world's future. Carbon emission issue has become a more powerful threat to people today as a result of human related activities exacerbating harmful climate change and global warming (IPCC,2007; UNITED NATIONS,1992). Kyoto protocol was developed by United Nations in 1997, and it provides a great and comprehensive mechanism to address climate change through carbon emissions to member countries. Sri Lanka also has taken membership of Kyoto protocol on 21 September 2016. With the effectiveness of this agreement, Sri Lanka has received the responsibility of addressing and disclosing contributors to climate change. Sri Lanka has also signed the Paris agreement (Van Calster & Reins, 2021) on 22 April 2006; however, this agreement was ratified only after 21 September 2016. When considering the membership status of Sri Lanka that is dealing with main environmental committees in the World, Sri Lanka has a major responsibility to address climate change due to greenhouse gas emissions. Considering the status of carbon emission in Sri Lanka, it appears that 1.31 tons of carbon dioxide per capita were emitted in 2019. This level has increased from 0.25 tons per capita in 1970 to 1.31 per capita in 2019, and it seems to be growing at a 3.96% annual rate (WDA,2019).

According to the Global Reporting Initiative Standards, carbon emission disclosures and carbon project implemented in 2000, have encouraged firms to disclose more information regarding their exposure to climate change. Before implementing this project, there was not much global attention on carbon disclosures, but status is not good for all over the world due to the Greenhouse gas effects. As of lately, this topic is frequently discussed due to the increasing rate of carbon emissions and many countries' increased exposure to natural challenges. When assessing the financial implications of this, a company should provide all pertinent information in a timely way so that its stakeholders can make informed decisions. This is one of the firm's preeminent corporate governance tasks. When a company has an effective corporate governance structure, it directly helps determine the firm's performance (Gray, 2006). As such, having an effective corporate governance body influence the recording as well as disclosing of sustainability practices in the firm (Cui et al., 2020). Distinguished economists' statements (Dietz et al., 2007) recommend people should take urgent actions to deal with climate changes in the future, for the cost of early actions would be less than the cost of actions taken after facing the effects of climate related issues. Hence,

environmental sensitive companies' actions are directly affecting the increase in CO₂ levels on earth. In 2009, the Green House Gas effect factor analysis of Sri Lanka conducted by WRI CA/T 2.0, 2015 indicated that, the highest carbon effect made by the energy sector from the most effect made to the least are respectively material, power, and transportation sectors. The controlling of environmental factors and GHG emissions are the fundamental disclosures of such companies.

In recent times, CSE has recommended to companies to adopt Environmental, Social, and Governance (ESG) Committees along with the purpose of improving sustainability practices in companies in 2019. Simultaneously, The Institute of Chartered Accountants in Sri Lanka has also been actively advocating for ESG Committee adoption in the country. In the face of challenges such as global warming and social unrest, the Institute of Chartered Accountants of Sri Lanka (CA Sri Lanka) and the CFA Society Sri Lanka have joined forces to encourage corporations to be more environmentally and socially responsible by adopting the conception of ESG in business practices. In 2021, the CA Sri Lanka Corporate Governance Faculty and the Corporate Governance Committee, in conjunction with CFA Society, hosted a webinar titled "ESG: A Corporate and Investor Perspective" in an effort to emphasize the relevance and significance of ESG and to encourage more companies across the country to adopt it. This effort is recognized by prior literature as well (Tingbani et al., 2020) and they demonstrate that, when companies have ESG Committees, they focus their attention to disclosing carbon emissions. Moreover, developing proactive environmental issues on GHG effect has become critical for the entities to continue their corporate resemblance amongst stakeholders (Liesen et al., 2015).

This study, however, has evaluated carbon emission disclosure level in Sri Lanka as well as corporate governance on carbon emission disclosures of environmental sensitive companies, covering the earlier mentioned two research gaps. Another consideration of this study is that the study discusses carbon emission disclosures. It is one of the major dimensions of environmental reporting. Hence, even though environmental reporting is a slightly discussed area, there is a huge research gap within it in discussing carbon emission disclosures within the Sri Lankan context.

2. Literature Review

Kyoto protocol, implemented in 1997, entered into force in 2005, and mainly focusses on corporate approaches to global warming, and currently there are 192 parties who are active member countries; Sri Lanka too is a member of Kyoto protocol which ratified it on 21 September of 2016. The main objective of this is to reduce GHG emissions worldwide and produce actions regarding major carbon emission issues in countries. Since the introduction of Kyoto protocol, environmentally sensitive companies are supposed to be responsible in increasing pressure for disclosing their carbon emission levels companywide.

Organizational legitimacy is created by social and environmental roles (Deegan, 2002) and in legitimacy theory, managers discuss their decision after emphasizing such rules within actions. Although environmental and carbon emission disclosing pressure is given by external shareholders, completeness of disclosures is not required by them. Signaling theory is evolved to reduce information asymmetry problems, for information is dominant for decision making. Alon & Elango (2018) suggests that signals have a collective strong power of public offering. Dixit et al. (2020) indicates that deciding the dividend policy is not based on signaling theory. Adopting green practices help determine company's future market value and future profitability (Miroshnychenko et al., 2017).

2.1. Environmental Accounting Practices

Environmental accounting practices are one of the major parts of sustainability reporting. There have been numerous studies to investigate environmental performance with firm value. Susanto and Meiryani (2019) suggested that environmental accounting procedures positively correlate with a company's performance. This study also explained that sustainability practices are ordered to enhance the firm reputation and organizational commitment.

Some authors have also suggested that environmental reporting has become a constituent part in the non-financial reporting into the company's all-inclusive businesses (Zrnić et al., 2020). Kathy Rao et al. (2012) demonstrated that there now is positive relationship betwixt environmental reporting and the existence of female directors in the board. Further, it explained institutional investors and the board size also have made a positive impact on environmental reporting. Dissanayake et al. (2012) emphasized that environmental declaration practices in Sri Lankan companies are at a very low level. With that indication, Aruppala et al. (2013) also indicated that environmental practices in Sri Lanka are at a very low level. The study indicates that having unprofessional accountants in firms is the reason

for that. Rizk et al., (2008) argued that the significance of the ownership structure is based on the adaptation of environmental disclosures in companies, and this probe found that the quantity of reporting environmental disclosures is at a low level in Egypt.

When considering the reporting quantity, both developed and developing countries are at an equal position (Dissanayake et al., 2012). Furthermore, it evidences that there is no standardized method of identifying the sustainability cost in both categorizations of countries. But some studies reveal that developed countries have some standardized methods to identify such practices than developing countries do. Alrazi et al. (2009) underline that the quality and quantity of environmental reporting in Malaysian businesses has increased significantly.

2.2. Environmental, Social and Governance Committees

Environmental, Social, and Governance committees are a new area that the Colombo Stock Exchange and the Institute of Chartered Accountants of Sri Lanka are recommending for 2019. Thus, these committees are a new adoption to Sri Lanka, other developed countries' firm governance structures are also created with ESG committees. Carbon emission consequences, resource efficiency and pollution avoidance, community health safety and security, labor and working conditions, involuntary resettlements, and land acquisitions are all expected to be managed as a result of this adaptation by the relevant regulatory parties.

Audit committee attributes such as activism of audit committee and Independence of Audit Committee have a certain impact on the quality and quantity of the ESG reporting (Arif et al., 2020). Furthermore, it is said ESG committee adopted companies tend to report environmental practices more. Having an ESG committee in firms is not enough; showing transparency is also a much-needed element. Media coverage and the quality of audit committee have two main drivers of showing the transparency of ESG Committees (Hammami & Hendijani Zadeh, 2020). But transparency does not impact the determination of investment inefficiency. Furthermore, it explains that, by adopting the ESG Committees, it would minimize information asymmetry.

Khemir (2019) demonstrated that in Tunisia, ESG criteria in firms have a lower level. Further studies are recommended for further development of ESG criteria. Consolidation of regulation criteria promotes the adoption of ESG Committees in Firms. Some studies have discussed corporate governance on having ESG Committees in firms. Manita et al. (2018)

noted that there is no correlation between ESG Committees and gender diversity on corporate boards.

2.3. Carbon Emission Disclosures

Carbon emission disclosures are a unique dimension of environmental reporting and there are a few studies discussing carbon emission disclosure. With the increase in global warming, carbon emission has become a major issue to society, and environmentally sensitive companies are to show their carbon performances (Omer & Sydney, 2017). Carbon emission disclosures are based on the activity sectors in which companies are operating. Mainly it identified that those companies are trying to disclose such practices for the motive of turning down political costs (Prado-Lorenzo et al., 2009).

Prado-Lorenzo et al. (2009) recognized that there is a straight relationship connecting board size, company's market capitalization, and carbon disclosures. Furthermore, they indicate there is an inverse relationship between ROA and carbon disclosures. ROA is a proxy of determining company's financial performance; alternatively, profit-making companies are more inclined to announce environmental disclosures (Rankin et al., 2011). Furthermore, it includes firms have high leverage dispenses high degree of permissive disclosures. Hence, disclosing these carbon emission disclosures in the financial statements; profitability has become a mediating role. Return on Equity (ROE) reflects the Profitability. ROE is a profitability ratio for an investor to assess the firm's capability to accomplish a net income that aligns to the dividend payment. ROE is a benchmark of how better a firm is to operate investor funds in create income (Kurnia, Darlis and Putra, 2020). Furthermore, this claims that main quoted operating companies tend to report carbon emission activities according to the GRI Index. With this, the previous research showed how carbon emission is effective in determining economic growth. It indicated that carbon emission disclosures make significant short- as well as long-run impact on economic growth in West African countries (Osadume & University, 2021). Hossain et al. (2017) found that there is a positive relationship betwixt women in board and the level of carbon emission revelations. It further explains that board size has a notable impact on determining carbon performances. Budiharta and Kacaribu (2020) demonstrated the impact of the board of directors, managerial proprietorship, and audit committees on carbon disclosures. However, Kılıç & Kuzey (2019a) show that the size of the board, proprietorship diffusion, board composition, and board diversity have a significant impact on determining CSR disclosures of the Turkish banking sector.

A number of prior studies have concluded that carbon emission disclosures have no direct effect on the valuation of a company. It is useless to evaluate corporations' financial performance based on their level of carbon emission disclosure. (Kurnia et al., 2020).

Datt et al. (2019) found that developing countries are showing inactive levels for disclosing carbon emission propensity when compared to developed countries. Though countries have no strong regulatory frameworks for environmental reporting, their environmental reporting quality is some of the highest in African and Nigerians companies. Furthermore, it found that environmentally sensitive companies are more interested in reporting carbon emission disclosures, and when companies have environmental committees, they are more potentially to implement carbon emission disclosures (Ofoegbu et al., 2018).

Kılıç & Kuzey (2019b) noted that corporate governance characteristics' (board independence, board gender diversity, board size and sustainability committee) effect on carbon emission disclosures in Turkish companies and found that corporate governance attributable like board size do not have an effect on reporting carbon emission disclosures, but other characteristics such as board independence have more of an impact on it. Having a sustainability committee also influences carbon emission reporting. (Omer & Sydney, 2017). Due to the silence of carbon emission disclosures in the Sri Lankan context, this study would work towards filling that research gap.

2.4. Problem Justification and Problem Statement

According to past studies, (Kılıç & Kuzey, 2019b) it is evident that the reporting of carbon emission disclosures is at a lower level in developing countries. The problem that needs to be solved by this study is primarily to determine whether or not there is any impact of corporate governance on the carbon emission disclosures made by environmentally sensitive listed companies in Sri Lanka, and to determine the level of reporting done by carbon emission disclosures made by environmentally sensitive listed companies in Sri Lanka.

By focusing on the problem statement, following research questions are suggested.

RQ1. What is the impact of Corporate Governance on carbon emission disclosures of environmentally sensitive listed firms in Sri Lanka?

RQ1.1. What is the impact of Board size on carbon emission disclosures of environmentally sensitive listed firms in Sri Lanka?

RQ1.2. What is the impact of Board Independence on carbon emission disclosures of environmentally sensitive listed firms in Sri Lanka?

RQ1.3. What is the impact of Audit Committee Independence on carbon emission disclosures of environmentally sensitive listed firms in Sri Lanka?

RQ1.4. What is the impact of *ESG* Committee on carbon emission disclosures of environmentally sensitive listed firms in Sri Lanka?

The matter of climate change has coerced corporates to become more accountable when performing their production activities and this has been a global trend of reporting with the increase in global climate change. At the present context of every country, stakeholders have been looking into the company's financial and non-financial disclosures sharply than ever before. They are always very much concerned with the non-financial indicators including carbon emission disclosures. When considering the global CO₂ emission, it has generally increased day-by-day, and mainly more developed and industrialized countries are the reason for a high rate of carbon emissions in the world. It is reported that Sri Lanka is the 82nd country in contributing carbon emissions in world rankings. Hence, Sri Lanka should also be responsible in taking actions to reduce emissions; it is not only one country's responsibility, but a global responsibility.

2.5. Hypothesis Development

2.5.1. Board size

As a head management frame of the company, Board of Directors are accountable for flourishing sustainable business master plan by deploying firm's assets (Jizi et al.,2014). The insertion of directors may intensify the board's guiding rapacity and the capability to encourage value-creating activities (Akhtaruddin et al.,2009). Consequently, corporations with larger boards may make better decisions about carbon emission reporting. There aren't many research that look at how board size affects disclosures of carbon emissions. Liao et al. (2015) and Yunas et al. (2016), established, for instance, a link between board size and disclosures of carbon emissions. Consequently, the following theory is put forth:

H1- *Board Size has a positive impact on Carbon Emission Disclosures of environmentally sensitive listed Companies in Sri Lanka.*

2.5.2. Board Independence

Independent directors support organizations' carbon emission and climate change-related activity reports in a variety of ways. To begin, it is expected that independent directors will do a great job of monitoring management in order to boost long-term value and provide a great deal of transparency. (Jizi et al.,2014). Because external directors are less vulnerable to pressure from shareholders and managers than internal directors, the stakeholder theory suggests that greater board independence is connected with more reliable reporting. (Hussain et al., 2016). Many previous research have indicated that an independent board significantly increases voluntary carbon disclosures. (Liao et al., 2015; Yunus et al., 2016). For this reason, the following hypothesis is offered;

H2- Board Independence has a positive impact on Carbon Emission Disclosures of environmentally sensitive listed Companies in Sri Lanka.

2.5.3. Audit Committee Independence

One component of corporate governance is the audit committee. (Pincus, Rusbarsky, & Wong, 1989). Madi, Ishak, and Manaf (2014) demonstrated that audit committee independence is positively correlated with voluntary company disclosure. Based on this it makes sense for an organization's carbon performance to improve if its committees are free from outside influence. Thus, the following hypothesis is developed:

H3- Audit Committee Independence has a positive impact on Carbon Emission Disclosures of environmentally sensitive listed Companies in Sri Lanka.

2.5.4. ESG Committee

Previous research (Liao et al., 2014) implies that an environmental committee is essential for providing environmental issues with more objectivity and a broader viewpoint than the full board could provide on its own. The presence of an environmental committee in the board of directors of a company can facilitate the adoption of carbon-reduction measures that are structured and well-planned (Liao et al. 2014). The more environmental disclosures made by firms are defined by the presence of the ESG Committee (Arif et al., 2020). When ESG Committees are present in companies, they create firm value (Aboud & Diab, 2018). Robertson (2018), has recommended to companies to adopt ESG committees to the purpose of increasing the quality of reporting as it directly affects investment decisions. Hence, by

considering the above factors and requirements of the recommendations given by CA Sri Lanka and CSE, the researcher decided to incorporate the hypothesis below into this study.

H4- ESG Committee has a positive impact on Carbon Emission Disclosures of environmentally sensitive listed Companies in Sri Lanka.

3. Methods

Secondary data collection is mainly used to collect data by using sample companies' annual reports for five consecutive years from 2016 to 2020. These panel data sets were collected through annual reports and by referring their websites. Annual reports were downloaded through Colombo Stock Exchange website (CSE) as well as by referring sample companies' websites. Population of this study were all of the environmentally sensitive listed companies in Sri Lanka except for financial companies and banks. In addition, insurance businesses were excluded from the sample since their reporting processes differ greatly from environmental reporting and carbon emission criteria (Klç & Kuzey, 2019b). In selecting the population for this study, the researcher resorted to 11 GICS Sectors and selected just the 5 most environmentally sensitive sectors based on their production activities when selecting the population. In selecting these 5 sectors, the following considerations were considered:

- 1) Companies' production processes
- 2) Whether their business activities cause damage to the environment
- 3) Whether they produce CO₂ or not through their business processes

By considering the above factors, final sample sectors were finalized to be the Energy sector, Transportation sector, Utilities, Capital goods, and the Material sector. From the 11 sectors under the CSE classifications, most of the environmentally sensitive sectors are there. But the study has mainly recognized carbon discharging sectors by considering the Sri Lanka National Climate Change Policy and survey data of Sri Lanka's GHG Emissions by sectors and percentage of total emissions in 2011. Companies for the years 2016 through 2020 were investigated. By selecting the final sample, two other factors were also considered,

- Having a complete set of annual accounting data from 2016 to 2020.
- Companies are required to provide carbon emission data in their annual or sustainability reports.

Due to the scarcity of data, the sample was limited to only 29 companies. Unbalanced sample data is shown in table 1.

Table 1: Research Sample selection criteria

Sectors	Total No of Companies	Availability of data from 2016-2020	Firm year Observation
Energy	2	2	10
Material	21	8	40
Transportation	3	0	0
Capital Goods	29	15	75
Utilities	8	4	20
Total	63	29	145

3.1. Operationalization

In this study, the researcher has used one dependent variable that is carbon emission disclosures and four independent variables such as board independence, board size, audit independence, and ESG Committee. For the purpose of creating more quality evidence, study has used three control variables such as Return on Asset, Return on Equity, and Leverage.

Table 2: Operationalization of variables

Variables	Operational Definition
Dependent Variables	
Carbon Disclosure Project Index (CDP)	The % of total items that a company revealed in disclosures
Independent Variable	
Board Size (BSIZE)	Members of the Board of Directors
Board independence (BINDP)	The proportion of non-executive board members to total board members.
Audit Committee Independence (AI)	The % of independent committee members to total audit committee members
Environmental, Social and Governance Committee (ESGC)	If the company in question does have an ESG Committee, then the value will be 1, else it will be 0.

Control Variables	
Return on Assets (ROA)	The ratio of annual net income to total assets as a %
Return on equity (ROE)	Annualized Net Income as a Percentage of Total Equity.
Leverage (LEV)	Ratio of total liabilities to total assets as a percentage

3.2. Conceptual Framework

Based on the supportive literature and the developed hypotheses, the conceptual framework used was as follows.

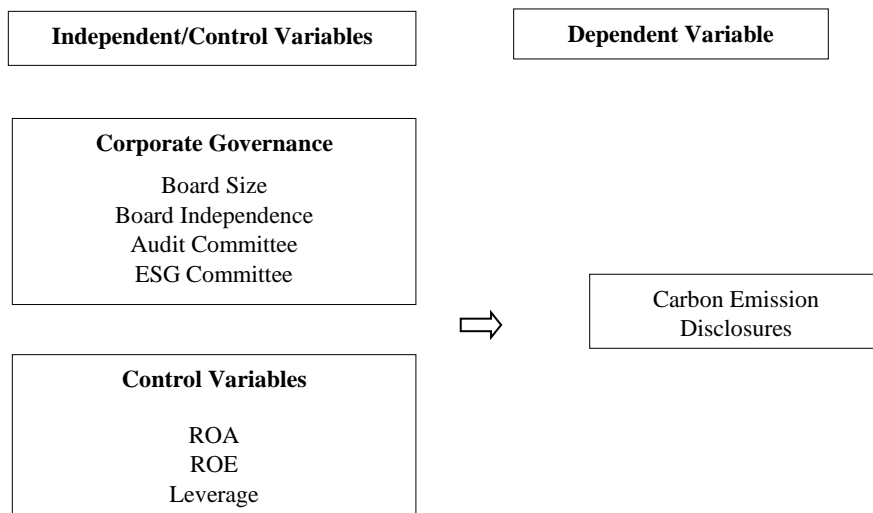


Figure 1: Conceptual Framework Diagram

After these variables were created, analysis was performed using EViews. The panel data regression model was utilized as the chosen strategy for the data analysis. The purpose of descriptive statistics is to provide a summary of the sample with respect to the aforementioned data. Then the data set was set to identify some missing values or outliers. After conducting treatments for missing values and outliers, the data set was used for the analysis.

4. Results

Assumptions were verified by using the Ordinary Least square Model. There are three methods of regressions namely, pool method, fixed effect regression, and the random effect regression.

Pool method regression considered as no significant difference between the selected companies and countries. All data can be concluded as together. Fixed method discusses there is a difference between selected companies. After running those two methods, redundant fixed effect test shows the fixed method is the best model for this data set. Which means cross section chi-square value is less than 5%, can conclude fixed method is the best method for the regression analysis.

Table 3: Redundant fixed effect test

Effects Test	Statistic	d.f.	Prob.
Cross-section F	23.596937	(28,109)	0.000
Cross-section Chi-square	283.427359	28	0.000

Random effect testing is a statistical model including random variables for model parameters. Panel analysis of hierarchical or panel data using random effects models in econometrics assumes no fixed effects (it allows for individual effects). Random effects models are mixed model special cases. Hausman Test reveals that random or fixed models are best.

Table 4: Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	22.545	7	0.0020

When the P value for rejecting the null hypothesis is less than 5%, one may do so. That means, the fixed model is the suitable model for analysis of the data set.

$$CDI = \beta_0 + \beta_1 BSIZE + \beta_2 BINDP + \beta_3 AI + \beta_4 ESGC + \beta_5 ROA + \beta_6 ROE + \beta_7 LEW + \varepsilon$$

(1)

Table 5: Regression Output

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-7.764748	20.32149	-0.382095	0.7030
BFSIZE	3.438838	1.314964	2.615158	0.0099
BIND	0.609928	0.436515	1.397268	0.1646
AI	0.246451	0.127239	1.936913	0.0548
ESGC	26.39783	5.559442	4.748287	0.0000
ROA	-0.069822	0.088712	-0.787059	0.4326
ROE	-0.399649	0.351107	-1.138256	0.2570
LEVERAGE	-0.311914	0.126516	-2.465418	0.0149
R-squared	0.303613	Mean dependent var	51.70467	
Adjusted R-squared	0.268031	S.D. dependent var	32.38187	
S.E. of regression	27.70437	Akaike info criterion	9.534649	
Sum squared resid	105151.9	Schwarz criterion	9.698883	
Log likelihood	-683.2621	Hannan-Quinn criter.	9.601383	
F-statistic	8.532812	Durbin-Watson stat	1.776924	
Prob(F-statistic)	0.000000			

Note: prob<0.05- Fixed method is accepted, Prob>0.05- Pool method is accepted

The regression model results are generated based on the above equation 1 specified model.

In consonance with the results of the regression model of fixed method, overall model is statistically significant as the probability F statistic value is less than 0.05. R squares indicates the goodness of fit of the model. This signifies that the selected independent variables characterize the magnitude of the dependent variable's percentage change. In this model, 32.38% of the disclosure of carbon emission information are explained by the board size, board independence, audit independence, and ESG reporting in the selected environmentally sensitive firms.

When considering the above individual significance, board size shows the significant relationship with disclose of the carbon emission information in the environmentally sensitive listed companies in Sri Lanka, and it positively affects the dependent variable. When it comes to board independence, there is no significance in the relationship between carbon emission disclosures. However, it positively affects with the dependent variable. Between audit independence and carbon emission disclosures, there is no significant relationship, but it is positively correlated with the dependent variable. Last but not least, there is a statistically significant correlation between the ESG committee and carbon emission disclosure, and it has positively correlated with the dependent variable.

Hypothesis Testing

H1- Board Size has a positive impact on Carbon Emission Disclosures of environmentally sensitive listed companies in Sri Lanka.

According to the results obtained for the regression model, a significant positive impact of board size on disclosure of carbon emission information can be identified. Coefficient of board size is 3.43 which is positively correlated, and it has a significant impact on the carbon emission disclosures as p-value is lower than 0.05.

Board size showed a significant relationship between carbon emission disclosures, and it positively correlated with CDP. These findings support H1 indicating, when environmentally sensitive companies have a higher number of board of directors in the board, companies are more feasibly disclose their carbon emission information in their annual reports. Omer & Sydney (2017) also agree with this result; The research shows that larger boards have a higher rate of carbon disclosure. However, Tingbani et al. (2020) contradicts this by showing that corporate governance mechanisms such as board size and board independence do not significantly affect Green House Gas disclosures of UK listed firms.

H2- Board Independence has a positive impact on Carbon Emission Disclosures of environmentally sensitive listed companies in Sri Lanka.

According to the results of the regression analysis, board independence has positively impacted carbon emission disclosures. Its co-efficient value is 0.609. Yet there is no significant impact between the effect of board independence and Carbon emission disclosures because p-value is higher than the 0.05. Hence, alternative hypothesis (H2) was rejected.

However, as per the statistical results, there is no significant relationship between board independence and carbon emission disclosures. Omar and Sydney (2017) contradict this by showing that there is a significant relationship between board independence and carbon emission disclosures. However, Kılıç & Kuzey (2019b) claim that board independence acts as a separate party and shareholders do not pressure them to disclose such practices.

H3- Audit Committee Independence has a positive impact on Carbon Emission Disclosures of environmentally sensitive listed companies in Sri Lanka.

According to the results of the regression analysis, audit committee independence has positively impacted the disclosure of carbon emission of environmentally sensitive listed companies in Sri Lanka. Its co-efficient value is 0.2464. Yet there is no significant impact between audit committee independence and carbon emission disclosures, for p-value is higher than 0.05.

According to the study's results, audit independence shows a non-significant relationship between carbon emission disclosures. Independence of the board and audit committee reflects a positive part in determining transparency of voluntary disclosures (Buallay & Al-Ajmi, 2020). However, audit independence is not directly close to voluntary sustainability reporting. Omer & Sydney (2017) also claim that audit independence has not made a significant impact on carbon emission disclosures.

H4- ESG Committee has a positive impact on Carbon Emission Disclosures of environmentally sensitive listed companies in Sri Lanka.

According to the regression analysis results, reporting of ESG committee has positively impacted the carbon emission disclosures. Its co-efficient value is 26.39. Results render it evident that, there is a strong significant impact between ESG committee and carbon emission disclosures of environmentally sensitive listed companies in Sri Lanka because p-value is lower than 0.05.

As a variable of ESG Committees, it has a strong significance with carbon emission disclosures, as it relates more to the environmental disclosures in annual reports.

5. Conclusion and Recommendation

After developing models and analyzing the data, findings indicated that only board size and ESG Committee have a significant relationship with carbon emission disclosures. The study further found that many of the reputed groups of companies in Sri Lanka with the highest capitalization with the presence of ESG committees on their companies tend to report ESG practices on their annual reports.

Research sample consisted of environmentally sensitive companies that are highly related to carbon emission activities, and according to the descriptive statistics results, there are

moderate levels of disclosing such carbon emission information in selected companies' annual reports. It clearly gives warning to Sri Lankan companies to raise awareness of such practices because the level of reporting of carbon emission data should be at a high level in accordance with the current global situation. Therefore, the results of this study indicate that government rules should play a significant role in encouraging corporations to disclose their carbon emissions. Therefore, moving forward, regulators and corporate governance standard setters should take essential measures to reevaluate global warming related policies and acknowledge carbon emission limits and targets that follow environmental commitments. Those regulations may involve provision for requisition disclosing of carbon emission information by using various media such as publishing environmental damage information and actions that can be taken to reduce such disclosures like shifting to renewable energy sources, introducing new environmentally friendly production categories, implementing waste management programs, etc. Companies can publish that information through sustainability reporting, environmental reports, and CSR reports.

Regulatory agencies, governments, and businesses must work together to address climate change and related global warming challenges. The country's governing bodies have a responsibility to be aware of the problems associated with climate change and to act swiftly to address them. In the company's perspective, corporate governance is the major responsible party to disclose such kind of voluntary disclosures in companies. In the data collection stage, the researcher identified most of the companies' chairpersons and CEOs had in their statements mentioned climate change issues and their accountability in disclosing such activities. It has been a remarkable finding that companies' key management personnel keep this in their mind as a responsibility. After the year 2019, most major groups of corporations began include information about their carbon emissions in their annual reports. Which may provide valuable insight into how it is time to include environmental strategies in companies.

The findings of the study for board composition have an impact on management decisions regarding carbon disclosure rules. The findings of the study provide implications to companies to increase their board size and focus their attention on starting ESG committees. When focusing on global warming and climate change related issues, ESG Committees provide better management of reporting on carbon emission information. This study's findings provide support for the idea that businesses and other organizations might use dedicated committees (such as sustainability boards, CSR boards, and environmental boards)

to proactively address environmental concerns and craft policies that mitigate the effects of climate change.

Policymakers, investors, corporate governance standard setters, regulators, and scholars with an interest in global climate change, carbon emission, and corporate governance standards can benefit greatly from the insights provided by the study's findings.

A brief discussion of the implications is as follows;

In particular, policymakers should acknowledge that the inclusion of an ESG committee in the board is one of the aspects of corporate governance that drives carbon performance of companies. Moreover, presence of ESG Committees in companies help reduce climate change risks, and through these committees, one can provide strategies to reduce such emissions in expected levels. Because when analyzing the sample companies' data, this study realized that many of the companies have taken a step to reporting ESG, but only a few of the companies have implemented ESG Committees in line with the CSE regulations.

Government regulations can develop new regulations and standards relating to carbon emissions, and they can influence corporations to disclose such practices. Because currently it has been only a voluntary disclosure and there are no compulsory regulations to disclose such practices in Sri Lanka. Finally, the research will encourage businesses to share data on their carbon emissions, as well as details on their carbon performance and the breadth of their disclosure efforts.

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