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Financial Factors, Corporate Governance and ESG during Covid-19 Pandemic: Malaysian evidence

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Abstract
This study investigated the factors influencing the Environment, Social and Governance (ESG) Disclosure of public listed companies in Malaysia, particularly before and during the Covid-19 pandemic. Using 62 Public Listed Companies in Malaysia and 248 firms' years of observation from the year 2018 to the year 2021, it found that profitability, growth of the company, company's size, board size, gender diversity, auditor tenure, and ESG disclosure highest during the Covid-19 pandemic outbreak period. It also discovered that profitability and independent board members had positively related to ESG disclosure before and during the Covid-19 pandemic outbreak.

Keywords: ESG; Financial factors; Corporate Governance; Covid-19

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1.0 Introduction

Covid-19 pandemic has caused immense changes in almost every aspect (Dmuchowski, Dmuchowski, Baczewska-Dąbrowska, & Gworek, 2023). The consequence of movement control order imposition adversely affected the production, consumption pattern, supply chain and business operations. For that reason, the sustainability of business in many industries becomes questionable. The sustainability issue is increasingly gaining attention among investors (PwC, 2022), as good sustainability will enhance economic performance. Companies that integrate sustainability practices are more agile in responding to unexpected events such as the Covid-19 pandemic (Broadstock, Chan, Cheng, & Wang, 2020). The involvement of business entities in environmental, social and governance (ESG) activities may enhance the business' sustainability.

In 2019, a report published by the Responsible Investment Association of Australasia (RIAA) defined responsible investing as "*an investment process which takes into account environmental, social, and governance (ESG) aspects,*" which are commonly used by fund managers in adopting the SRI approach. Therefore, from the perspective of ESG itself, it was acknowledged that ESG factors have financial implications for companies.

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In addition, there is an immense literature on determinants of ESG disclosure at different levels (Brooks, Susan Gill, Wong-On-Wing, & Yu, 2022). However, there is a limited study on ESG determinants in emerging markets during the Covid-19 period. Previous studies argued that certain financial factors and corporate governance influence ESG disclosure. This study intends to investigate the factors influencing the ESG Disclosure of public listed companies in Malaysia, particularly before and during the Covid-19 pandemic. Financial factors have been suggested to significantly determine ESG disclosure (Nuskiya, Ekanayake, Beddewela, & Gerged, 2021; Orazalin & Mahmood, 2020). Corporate governance attributes are expected to substantially impact ESG disclosure since good corporate governance compliance positively contributes towards higher information disclosure (Gerged, 2021). However, the empirical evidence of the impact of these variables on ESG disclosure is inconclusive.

This study contributes significantly to the existing sustainability reporting literature by providing additional insights into the limited empirical studies on ESG disclosure scenarios in Malaysia. This study seeks to empirically examine the critical determinants of ESG disclosure during the Covid-19 pandemic. The general results of the study substantially contribute to the crucial consideration of Malaysian companies' current sustainability reporting situation.

2.0 Literature Review

The recent Covid-19 pandemic has caused drastic changes in practically all aspects (Dmuchowski et al., 2023), ranging from healthcare, education, individual life and the worldwide business ecosystem (Amankwah-Amoah, Khan, & Wood, 2020). The movement control order imposed by the government worldwide has caused a reduction in production and consumption and an interruption in the supply chain process. These effects have posed financial distress and business failure to companies in many sectors. Consequently, Covid-19 will have an adverse effect on the business sustainability progress.

Sustainability issues are crucial for investors (PwC, 2022), and Broadstock et al. (2020) claim that companies with sustainable models are more resilient towards the adverse effects of the Covid-19 pandemic. They propose adopting the ESG model to sustain in the uncertain, complex business environment. A survey conducted by MICPA and PwC finds that ESG has become the top consideration in investment evaluation. Malaysian investors seek companies to consider all ESG elements in their business operations (PwC, 2022). Companies that embrace this model tend to have higher shareholder value (Dmuchowski et al., 2023).

2.1 Financial Factors and Stakeholder Theory

The stakeholder theory posits that companies should act in the best interest of all stakeholders. Besides financial performance, they demand more information on the environment and social activities undertaken by the companies (Dissanayake, Tilt, & Qian, 2019). Companies disclose sustainability information to discharge their responsibility to diverse stakeholders and to fulfil their stakeholders' expectations (Abdul Rahman & Alsayegh, 2021). Kumar, Kumari, Poonia, and Kumar (2021) highlight that various stakeholders' information needs are met by disclosing ESG information.

In addition, the early thinking of ESG is that these are unnecessary costs that lead to wealth corrosion. This view is consistent with the agency theory, which says that a manager tries to act for his or her benefit rather than maximise the shareholder wealth (Graham and Harvey (1999), hence ESG activities would be negatively related to financial performance.

Literature suggests profitability is positively attributed to voluntary disclosures (Abdul Rahman & Alsayegh, 2021). Nuskiya et al. (2021) point out that companies with better financial performance tend to provide more ESG information to differentiate themselves from less profitable companies. Highly profitable companies are also anticipated to have more financial resources to stimulate a good reputation and meet diverse stakeholders' demands (Orazalin & Mahmood, 2020), thereby providing higher ESG disclosure. However, there is evidence that profitability negatively affects ESG disclosure. Profitable companies may find engaging in sustainability activities unnecessary (Kumar et al., 2021). Chung, Bayne, and Birt, (2023) find that profitability does not influence ESG disclosure. Thus, the following hypothesis is proposed:

H1: Profitability is positively associated with ESG disclosure.

Leverage is another financial factor that determines ESG information disclosure. Highly leveraged companies have more contractual obligations to provide sustainability information to meet the loan providers' demand and mitigate the information asymmetry problem to the stakeholders (Aribi et al., 2018). More disclosure of ESG information may ensure the companies' financial success (Abdul Rahman & Alsayegh, 2021). Studies such as Abdul Rahman and Alsayegh (2021) and Aribi, Alqatamin, and Arun, (2018) suggest that leverage positively influences the extent of sustainability-related disclosures. However, companies with high debt levels may face financial constraints and focus on short-term performance (Kumar et al., 2021). This will lead to a negative relationship between leverage and sustainability information. Chung et al. (2023) find that leverage does not influence the level of sustainability practices. Thus, the empirical evidence on the influence of financial leverage on ESG disclosure is inconclusive. We posit the following hypothesis:

H2: Leverage is positively associated with ESG disclosure.

The extent of ESG disclosure may be influenced by financial capability. Orazalin and Mahmood (2020) propose that ability to produce operating cash flows will support sustainability information disclosure. Jasni and Yusoff (2020) suggest that data governance is a crucial element in the success of sustainability reporting. More financial capability will assist companies in managing their data efficiently and provide incentives to produce more ESG disclosure. Consistent with stakeholder theory, companies with financial capability have the financial resources to produce sustainability reports (Orazalin & Mahmood, 2020) and are motivated to satisfy their stakeholders' demands. Thus, we assume the following hypothesis:

H3: Financial capability positively associated with ESG disclosure.

2.2 Corporate Governance and Agency Theory

Literature suggests corporate governance compliance may lead to higher sustainability information disclosure (Gerged, 2021). Aligned with agency theory, the management's opportunistic behaviour should be monitored to align the managers' interests with those of shareholders. However, the literature on the relationship between corporate governance attributes and sustainability-related disclosure suggests that the evidence needs to be more precise.

Empirical evidence on the influence of board size on sustainability-related disclosure is mixed. Smaller board sizes may effectively mitigate managers' opportunistic behaviour, thus, reducing agency disputes (Ahmed, Hossain, & Adams, 2006). Other studies postulate that a larger board size encourages more sustainability disclosure. More board members with different expertise may induce more effective monitoring mechanisms, leading to better symmetry information with the stakeholder (Giannarakis, Andronikidis& Sariannidis, 2020). Consistent with Nuskiya et al. (2021), this study suggests the following hypothesis:

H4: Board size is positively associated with ESG disclosure.

It is proposed that board diversity determines the sustainability disclosure level (Lahyani, 2022). In line with this view, MCCG (2017) recommends that companies appoint more female directors as diverse boards may enhance the companies' sustainability. The positive effect of gender diversity on ESG performance is also supported from the perspective of emerging countries (Wasiuzzaman & Wan Mohammad, 2020). Thus, this study hypothesises that:

H5: Gender diversity is positively associated with ESG disclosure.

Following agency theory, Fama and Jensen (1983) advocate that board independence is influential in mitigating opportunistic management behaviour. Previous evidence, such as Gerged (2021) and Nuskiya et al. (2021), supports the view that board independence favours sustainability disclosure. Gerged (2021) mentions that independent directors tend to foster sustainability disclosure as a means to balance off the accountability process. Hence, the relationship between board independence and ESG is hypothesised as follows:

H6: Independent board member is positively associated with ESG disclosure.

Lahyani (2022) suggest that the directors' experience and industry knowledge are enhanced as the directors' service term increases. Since longer board tenure has a better understanding of sustainability needs, directors will assist the management in providing better sustainability reporting, which reduces information asymmetry and agency conflicts. Thus, we assume the relationship between average board tenure and ESG as follows:

H7: Average board tenure is positively associated with ESG disclosure.

Similar to other corporate governance attributes, the findings on the influence of auditor tenure on sustainability disclosure are inconsistent. Long auditor tenure that has been linked to high audit quality, better management integrity and reduction in financial risk (Brooks et al., 2022) may reduce information asymmetry through higher sustainability disclosure. A long auditor-client relationship may encourage the management to engage in opportunistic behaviour as they need to preserve their integrity and reputation. However, frequent auditor rotation may result in lower audit quality due to a lack of knowledge of new audit engagements (Brooks et al., 2022). Thus, short auditor tenure may negatively impact the sustainability reports. Thus, we assume the relationship between auditor tenure and ESG as follows:

H8: Auditor tenure is positively associated with ESG disclosure.

Khan et al. (2013) suggest that CEO duality gives the CEO more power, which may deteriorate the effectiveness of corporate governance mechanisms. Such CEO may use their power for private interest (Nuskiya et al., 2021) and negatively influence the monitoring activities that impair information transparency and thus reduce the sustainability disclosure (Tran, Beddewela, & Collins, 2021). The following hypothesis is:

H9: Duality is negatively associated with ESG disclosure.

This study includes growth, company size and industry sensitivity as control variables. Companies with growth opportunities are incentivised to disclose ESG information (Garcia-Sanchez et al., 2020). Due to more ESG activities, resource availability and better economies of scale (Abdul Rahman & Alsayegh, 2021), more prominent companies tend to disclose more ESG information to reduce the information asymmetry and thus reduce agency problems. ESG disclosure level varies among the nature of the industry. Sensitive industries to the environment are inclined to provide ESG information (Kumar et al., 2021; Nuskiya et al., 2021).

3.0 Methodology

This study investigated the factors influencing the Environment, Social and Governance (ESG) Score of public listed companies in Malaysia, particularly before and during the Covid-19 pandemic. This study used secondary financial data collected through Refinitiv Eikon published by Thomson Reuters. Our initial sample comprises all the public listed companies in Malaysia. However, since this study focuses on the period before and after the Covid-19 pandemic, our data will be collected from the year 2018 until the year 2021.

Further, this study needs to eliminate the firms with the ESG Score that is unavailable in the database. After the screening, our final sample is 248 firm-years observation, comprising 62 Public Listed Companies in Malaysia. The analysis was done using Python Pandas programming software. It was believed that this kind of analysis method still needed to be improved in usage among researchers, especially in the accounting and finance area. Table 1 shows the summary of the variables' measurements in this study.

Table 1: Measurements of Variables

Variables	Measurements	Prior Studies
Environment, Social and Governance (ESG) Disclosure	ESG score	Nuskiya et al., 2021; Orazalin & Mahmood, 2020; Gerged, 2021
Financial Factor: Profitability	Profit after tax / Total equity	Kumar et al., 2021; Orazalin & Mahmood, 2020; Abdul Rahman & Alsayegh, 2021; Nuskiya et al., 2021
Leverage	Debt to Equity ratio	Abdul Rahman and Alsayegh,2021; Aribi et al.,2018; Chung et al.,2023
Financial Capability	Free cash flow divided by total assets	Jasni and Yusoff (2020) Orazalin and Mahmood (2020)
Corporate Governance: Board Size	Number of board member in the company	Ahmed et al, 2006; Giannarakis et al., 2020; Nuskiya et al.,2021
Gender Diversify	No women as a board member	Lahyani, 2022; Wasiuzzaman & Wan Mohammad, 2020
Independent Board Member (IBM)	No of independent board member	Fama and Jensen,1983; Gerged, 2021; Nuskiya et al.,2021
Average Board Tenure	No average board tenure	Lahyani (2022)
Auditor Tenure	No auditor tenure	Brooks et al., 2022)
Duality (DUMMY)	CEO and chairman	Khan et al.,2013; Nuskiya et al., 2021; Tran et al., 2021
Industry) (DUMMY)	Sensitive and not sensitive industry	Kumar et al., 2021; Nuskiya et al., 2021
Growth	(Sales t - Sales t – 1)/Sales t - 1	Garcia-Sanchez et al., 2020
Company Size	The logarithm of the Total Assets	Abdullah &Tursoy (2021)

4.0 Findings

4.1 Descriptive Analysis

Table 2 shows the summary of descriptive statistics for this study. The Environment, Social and Governance (ESG) disclosure's standard deviation is low before and during the Covid-19 pandemic period. It indicates that the fluctuation ESG disclosure of the companies is low for the respective period. As we can see from the result, the ESG disclosure means that during the covid19 Pandemic outbreak, is 61.888, higher than before the Covid19 Pandemic Outbreak by 9.228. This study used financial factors and corporate governance factors as independent variables. Based on Table 2, the result reveals that the growth of the company, financial capability (FCF) and company size are higher during the Covid-19 pandemic. While board size, gender diversification, and auditor tenure represent corporate governance factors higher than during the Covid-19 pandemic period. Based on this result, shows a low representation of female members on the company's board.

Table 2: Descriptive Analysis

	Period	Mean	Std	Min	Max
ESG disclosure	BCOVID	52.660	16.762	0.000	87.578
	DCOVID	61.888	14.548	22.940	90.520
Profitability (PROF)	BCOVID	0.180	0.407	-0.520	2.585
	DCOVID	0.131	0.499	-3.113	1.929
Leverage (LEV)	BCOVID	0.897	1.118	0.000	7.803
	DCOVID	0.873	1.347	-4.138	8.999
Financial Capability (FCF)	BCOVID	0.088	0.106	-0.178	0.504
	DCOVID	0.091	0.144	-0.531	0.831
Board Size	BCOVID	9.089	2.068	5.000	17.000
	DCOVID	9.282	2.159	5.000	17.000
Gender Diversify	BCOVID	25.709	11.442	0.000	57.143
	DCOVID	26.662	12.132	0.000	57.143
Independent Board Member (IBM)	BCOVID	52.952	13.095	25.000	84.211
	DCOVID	55.762	12.750	30.000	93.750
Average Board Tenure (ABT)	BCOVID	7.696	4.678	0.750	23.500
	DCOVID	7.542	4.462	2.021	24.125
Auditor Tenure (AT)	BCOVID	7.629	6.310	1.000	24.000
	DCOVID	7.911	6.506	1.000	26.000
Growth	BCOVID	0.059	0.287	-0.559	2.184
	DCOVID	0.064	0.320	-0.724	1.292
Company size (SIZE)	BCOVID	10.233	0.695	8.832	11.921
	DCOVID	10.275	0.674	8.793	11.948

4.2 Multiple Regressions

This study created a regression model to investigate the factors influencing the Environment, Social and Governance (ESG) Disclosure of public listed companies in Malaysia, particularly before and during the Covid-19 Pandemic period. Below is the equation of the regression model used in this study:

$$ESG_{it} = \beta_0 + \beta_1 PROFy_{it} + \beta_2 LEV_{it} + \beta_3 FCF_{it} + \beta_4 BOARDSIZE_{it} + \beta_5 GENDERy_{it} + \beta_6 IBM_{it} + \beta_7 ABT_{it} + \beta_8 AT_{it} + \beta_9 GROWTHy_{it} + \beta_{10} SIZE_{it} + \beta_{11} DummyIndustry_{it} + \beta_{12} DummyDualityy_{it} + \varepsilon_{it}$$

Where:

ESG Environment, Social and Governance Disclosure
PROF Profitability
LEV Leverage
FCF Financial capability
BOARDSIZE Size of board member
GENDER No of female board member
IBM Independent board member
ABT Average board tenure
AT Auditor tenure
GROWTH Growth of the company
SIZE Size of the company
Dummy Industry1 for non-sensitive industry and 0 otherwise
Dummy Duality 1 for duality and 0 otherwise

The results from the regression model are presented below in Table 3:

Table 3: Multiple Regression

	ESG (BCOVID)				ESG (DCOVID)			
names	coef	se	T	pval	coef	se	T	pval
Intercept	-28.62	14.18	-2.02	0.05	9.39	11.192	0.839	0.403
Profitability	10.98	7.60	1.44	0.10*	8.654	5.086	1.702	0.092*
Leverage	1.03	1.49	0.69	0.49	-1.18	1.355	-0.871	0.386
Financial Capability (FCF)	4.39	29.57	0.15	0.88	-10.708	15.876	-0.674	0.501
Industry (Dum1)	-14.35	7.60	-1.89	0.06**	6.028	6.181	0.975	0.332
Industry (Dum2)-(Sensative)	-14.27	6.94	-2.06	0.04**	3.362	5.357	0.628	0.532
Board Size	0.29	0.71	0.41	0.68	0.602	0.61	0.987	0.326
Gender Diversify	0.04	0.13	0.34	0.74	0.166	0.11	1.511	0.134
Independent Board Member (IBM)	0.47	0.12	3.80	0.00***	0.293	0.109	2.672	0.009***
Ave. Board Tenure (ABT)	-0.23	0.32	-0.72	0.48	-0.339	0.289	-1.174	0.243
Auditor Tenure	0.01	0.24	0.06	0.95	-0.265	0.215	-1.23	0.221
Duality (Dum3)	-18.14	7.65	-2.37	0.02***	-0.056	5.793	-0.01	0.992
Duality (Dum4)	-10.47	7.19	-1.46	0.15	9.447	6.062	1.558	0.122
Growth	-5.97	4.84	-1.23	0.22	-3.186	4.397	-0.725	0.47
Company size	7.54	2.72	2.77	0.01***	1.829	2.294	0.798	0.427
Adjusted R2	27.8				20.4			

****, ** and * indicate significance at the level of 1%, 5% and 10% respectively*

Based on the results tabulated in Table 3, the adjusted R2 before the Covid-19 Pandemic outbreak was 0.278, which describes that 27.8 per cent of the environment, social and governance (ESG) disclosure is affected by all variables tested in this study, while during the covid-19 pandemic outbreak, the adjusted R2 decreases to 20.4 per cent. These results indicate that during the Covid-19 pandemic outbreak few factor is not influenced the ESG disclosure anymore, such as industry and duality factors. It proved that other factors excluded from this study would also impact ESG disclosure regardless of the period.

This study found that before the pandemic outbreak, profitability represented by return on equity (ROE) and independent board members had a positively significant impact before and during the covid-19 pandemic outbreak. Hypotheses 1 and 6 predict that profitability is positively associated with ESG disclosure and independent board member is positively associated with ESG disclosure, respectively. Therefore, these hypotheses produced significant findings. The results are consistent with previous studies by Abdul Rahman & Alsayegh, (2021), Nuskiya et al. (2021) and Gerged (2021). This result indicates that the higher profitability of the company, the more ESG disclosure to legitimise themselves and reduces the possibility of adverse selection. Others, the company more disclosure on ESG if the number of independent board members is high. It demonstrates that more independent directors tend to disclose more information voluntarily.

Consistent with hypothesis 9 that duality is negatively associated with ESG disclosure, this study showed that duality had negatively impacted ESG disclosure before the Covid-19 pandemic. Past studies supported by Khan et al. (2013), Nuskiya et al. (2021), and Tran et al. (2021) also found that duality has negatively associated with ESG disclosure. This result suggests that CEOs with dual roles decline the firm's environmental and social initiatives (Arayssi et al., 2020). In addition, it also avoids any unethical decision-making behaviours with potential clashes between board members and their chairs. However, during the Covid-19 pandemic outbreak, there have been no significant duality impacts on ESG disclosure. Moreover, this study also shows that sensitive and non-sensitive industries had negative significant impact on ESG disclosure before the Covid-19 pandemic.

Using stakeholder and agency theory, this study finds that profitability significantly impacts ESG disclosure before and during the Covid-19 pandemic outbreak. At the same time, ESG disclosure is influenced by the independent board member (IBM) before and during the Covid-19 pandemic outbreak. However, CEO Chairman duality only significantly influenced the ESG disclosure during Covid-19. Other financial factors; leverage and financial capability and corporate governance attributes; board size, gender diversity, average directors' tenure and auditor tenure, have no significant impact on ESG disclosure. Thus, different factors and attributes influenced ESG disclosure before and during the Covid-19 pandemic.

5.0 Conclusion & Recommendations

This study investigates the factors influencing the Environment, Social and Governance (ESG) disclosure of public listed companies in Malaysia, particularly before and during the Covid-19 pandemic. Using the yearly financial data from the year 2018 to the year 2021 with 248 firms' years of observation shows that the company's profitability positively impacts ESG disclosure regardless of the period of Covid-19. In addition, profitability and Independent Board Members (IBM) also significantly impacted the ESG disclosure before and during the Covid-19 pandemic outbreak. However, duality and industry (sensitive and non-sensitive) were negatively associated with ESG disclosure before the Covid-19 pandemic outbreak.

The use of Python Pandas analysis may also contribute to the analysis method since there is still a shortage of Python Pandas studies in the data analysis method. Since machine learning has become a growing force and competitive in the business, its use may provide better results. This study used 4-year financial data observation; therefore, it may reflect only some of the ESG disclosure of the companies before and during the Covid-19 pandemic outbreak crisis. Thus, future research should consider extending the study period for more concrete results. Since this study is limited to the Malaysian environment, future studies should consider other similar emerging economies. The findings of this study may benefit the companies, investors, and regulators in assessing the sustainability of business entities. It also wishes that more companies will report ESG activities in future.

From the theoretical perspective, stakeholder theory focuses on maximising stakeholder benefits, not just profit. Therefore, this study also has other interesting discoveries, in which corporate governance significantly affects firms' environmental, social and governance disclosure by the company.

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Paper Contribution to Related Field of Study

This study would contribute to statistical analysis in examining whether public listed companies in Malaysia are impacted positively or adversely by the Covid-19 pandemic outbreak for the professionals in the industry who act as practitioners. The importance of examining the public listed companies on the Main Board of Bursa Malaysia is to understand whether company financial factors and governance factor impact companies ESG disclosure as the publicly listed companies are larger and bound by the listing rules and regulations to stay listed. Furthermore, ESG is one of the crucial factors for companies and even the capital market uses ESG disclosure scores to evaluate the business and determine the financial performance in future.

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