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Do Environmental, Social, and Governance Practices (ESG) Signify Firm Value? Evidence from FTSE4Good Bursa Malaysia (F4GBM)

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Abstract
Purpose: The purpose of this paper is to measure the effect of environmental, social, and governance (ESG) score towards the firm value of listed firms in Malaysia.
Design/methodology/approach: The unbalanced panel data of 70 constituents of the F4GBM Index Bursa Malaysia for the years 2009 to 2018 with 512 observations were used. The dependent variable used as an indicator of firm value was Tobin's Q (TQ). The independent variables chosen were the ESG score, equity-to-total–asset ratio (ETA), debt–to-asset ratio (DTA), weighted average cost of capital (WACC), dividend policy (DPS), asset tangibility (AT), and firm size (SIZE). The model selected was tested for multicollinearity and the robust statics panel data were used to estimate the coefficients for heteroscedasticity and endogeneity.
Findings: The robust fixed effect results demonstrated significant relationships between the firm value represented by TQ with the ESG score and other firm specific variables, which were WACC, dividend policy, asset tangibility, and firm size. Meanwhile, there were insignificant relations with debt ratio and equity ratio.
Research limitations/implications: This study only focused on constituents of the FTSE4Good Bursa Malaysia Index (F4GBM) in Bursa Malaysia. It did not analyze the effects of ESG from the viewpoints of the whole sectors in Bursa Malaysia, thus forming limitations towards the current study.
Practical implications: The proposed model might be a valuable practical tool for managers and other business stakeholders through supporting the financial decision-making process. Decisions of imposing higher transparency in environmental concerns, social concerns and governance accountability help to enhance firm value from Malaysia's perspective.
Originality/value: Given the increasing significance in sustainability issues, the current study contributes to the literature on Malaysian listed firms from the viewpoints of ESG scores with firm value.

Keywords: Environmental, social, governance, firm value, Tobin's Q, weighted average cost of capital

Introduction

The concept of sustainable development that requires transparency and obligation of organisations to the society has gained importance and has been evolving in every dimension of organisations globally. One of the dimensions in sustainability that is fast becoming the integral focus nowadays is the so-called ESG, an acronym for "environmental, social, and governance". Specifically, ESG indicators are created to capture additional dimensions of corporate performance, which are not reflected in accounting data (Bassen & Kovacs, 2008). The ESG factors have become an important part of mainstream investment decision-making

(Bursa Malaysia, 2020a) as they might capture a moderns firm's objectives. Additionally, ESG is considered as the preferred term for capital markets (Ellis, 2020), a valuable mechanism for stakeholders and investment decision-makers, and more precise, measurement of a portfolio's performance (García, González-Bueno, Guijarro, & Oliver (2020) among others to highlight its significant benefit. Even so, since decades ago, the traditional view of emphasising towards shareholder value maximisation as the main objective of firms is still beholden. This is in accordance to Friedman (1962) on the economic profit making as the main indicators of firms' social responsibility refute obligation to serve the others stakeholders' interests (Friedman, 1970; Roland & Tirole, 2010). However, the transition towards involvement in activities that improve other stakeholders' welfare specified by responsible investment principles by finding a balance between the environmental, social, and economic performance (Liang & Renneboog, 2017) is taking place.

Henceforth, integrating these two classical and modern objectives of firms in forming a sustainable organisation is worth to be continuously explored. Capturing the classical shareholder value maximisation through the lens of ESG befits the main objective of the current study. Extensive research have been conducted to address ESG over the last few years, such as the most recent works by Jang, Kang, Lee, & Bae (2020), García et al. (2020), Sadiq, Singh, Raza, & Mohamad (2020), Zhang, Loh, & Wu, (2020), and Pellegrini, Caruso, & Cifone, (2019) to name a few. Albeit more than 2,000 studies have analysed ESG and financial performance (Friede, Busch, & Bassen 2015), there are still substantial doubts about the role of ESG in shaping both profitability and firm value (Pellegrini, et al 2019). Consequently, there is a challenge to verify its added value by taking into consideration Malaysia's perspective, since the introduction of the indicator in Bursa Malaysia is still novel.

The Malaysian government showed its support via positive determinations of Bank Negara Malaysia (BNM), Securities Commission Malaysia (SC), and Bursa Malaysia (BM) towards the sustainability dimension that kick-started in 2014. The launch of the FTSE4Good Bursa Malaysia (F4GBM) in partnership with FTSE Russell by Bursa Malaysia in December 2014 determined efforts to encourage best practice disclosures amongst Malaysian public listed companies. The increasing numbers in F4GBM Index constituents from 24 to 73 as of the latest review in June 2020 (Bursa Malaysia, 2020b) are a clear indication on the ESG momentum in Malaysian corporates. Eventually, the ESG score is now made available to the public via Bursa Malaysia's website. These measures will offer a good point of reference for investors looking for listed firms with good ESG performance. In addition, the ESG ratings can be used as building blocks for integrating ESG into investments in a variety of ways, including active portfolio management, benchmark construction, and company engagement (Bursa Malaysia, 2020b). As indicated by Eliss (2020), firms with high ESG performance have proven to have lower risks, higher returns, and are more resilient in times of crisis. Therefore, the ESG benchmarks have become a regular requirement for key stakeholders, including investors and tenants, even though most ESG disclosure is on voluntary basis. All of these add up the motivation of the current study to enrich the ESG literature from Malaysia's perspective. Therefore, the current study intends to analyses the impact of ESG initiatives implements by the public listed firms towards firm value maximization.

The remainder of this paper outlines the empirical study undertaken on the issues of ESG to stem the problem statement. Then, the clarification of data and research methodology is discussed. This is followed by the core findings of the research and finally the findings with the discussion of potential for future research.

Literature Review

The literature of the selected issues refers to the broad class of investment practice by a variety of terms that integrate the consideration of ESG indicators. There are numerous ESG studies, especially on developed countries. Nevertheless, there is still limited research based on emerging economies that need considerable attention.

Atan, Alam, Said, & Zamri (2017) found an insignificant relation between individual and combined factors of ESG and firm profitability (i.e. ROE) as well as firm value (i.e. Tobin's Q) for public listed companies (PLC) in Malaysia. Their study also evidenced that individually, none of the ESG factors was significant with the cost of capital (WACC); yet, the combined score of ESG positively and significantly influenced the cost of capital (WACC) of a company. The most recent study by Saadiq et al. (2020) also investigated the relationship of ESG practices and the consequences related to their disclosure on firm value using Malaysian listed firms. The results obtained by the regressions indicated that firm value increased with ESG strength and decreased with ESG concern. Their study used the ESG index based on the reporting of ESG information in annual reports. This is similar to Yip & Lee (2018), who indicated that the overall ESG disclosure score and its environmental and governance pillars were positively associated with Tobin's Q. Kweh, Alrazi, Chan, Wan Abdullah, & Lee, (2016) employed a data development analysis (DEA) to estimate firm efficiency for Malaysian government-linked companies (GLC). Their study indicated that GLCs focused more on governance disclosures, followed by social and environmental aspects. They also concluded that governance improved firm efficiency; however, social and environmental factors had no similar effects. Other prior studies that highlighted the issues of ESG in Malaysia included Othman, Darus & Arshad (2011) with significant relations between ESG and firm profitability. García et al. (2020) related ESG scores to corporate financial performance measures for publicly traded European companies during the period of 2013–2018 by developing a rough set model. Their study was able to predict the ESG rank given if the variables were clustered in three or four equally balanced groups. Nevertheless, the opposite occurred with a larger number of groups. Meanwhile, Jang et al. (2020) used a corporate bond data in Korea to investigate the relationship between ESG scores and bond returns. Their study indicated that only environmental scores showed a significant impact on bond returns when interacting with firm size, suggesting that high environmental scores lowered the cost of debt financing for small firms. In addition, Pellegrin et al (2019) analysed the impact of ESG scores on firm profitability in European and North American listed firms. Their results evidenced positive association between the environmental components of ESG scores with firm profitability, whereby the environmental score exhibited the most robust association. Eventually when considering firm value proxies by means of Tobin's Q, the results showed a negative association with the environmental component of ESG. On the other hand, Fatemi, Glaum, & Kaiser. (2017) disclosed a positive effect of ESG activities with value, which had a positive effect. Whilst, Capelle-Blancard & Petit (2017) found that on average, companies gained nothing from positive announcements on ESG factors; however, they suffered a drop in market value after negative announcements.

Theoretical Framework and Hypothesis Development

The main independent variables (IV) of ESG practices were reflected by the ESG scores of listed firms extracted from the Thomson Routes Database. Breaking down ESG was the first criterion known as environmental (E). It is one of the criteria expressions used to score a firm's environmental aspect by looking into environmental issues, such as climate change, greenhouse gas (GHG) emissions, resource depletion, including water, waste and pollution, and deforestation to name a few that have been addressed by particular firms. The score represents

the firm's efficiency in managing its environmental cost towards its stakeholders while operating the firm through more eco-efficient solutions (Yoon, Lee, & Byun, 2018). The second criterion is social (S), which is assessed by looking at the firm's closed relationships with its stakeholders by considering how the firm treats and values people. The criterion includes considering sustainable management, business ethics, job security, working condition for workforces, the firm's relationship with labour unions, and human resource development (Yoon, et al 2018). Lastly, the third criterion is the governance factor (G). It is scored based on the firm's perseverance in upholding the corporate governance practices and apprehending transparency in its decision-making processes (Lee & Kim, 2013; Han, Kim, & Yu, 2016; Yoon et al 2018). The factors considered in evaluating the firm's governance score are tax strategies, donations, lobbying, corruption, and bribery.

In addition to ESG score, the firm specific variables are made up of the capital structure indicators. They are widely used due to their strategic importance in determining firm value (Berk & DeMarzo, 2007; Brigham & Ehrhardt, 2002). Defined as the financing mixed-use sources of funds, its complexity is considered as one of the most debated topics in corporate finance literature (Khan, Qureshi, & Davidsen (2020). Pioneered by Modigliani & Miller, (1958), the leverage irrelevance theory indicates that given perfect information with the absence of taxes and transaction costs, the choice of capital structure is irrelevant in determining firm value. The capital structure indicators used in this study were equity-to-total asset ratio (ETA), debt-to-asset ratio (DTA), and weighted average cost of capital (WACC) (Atan et al., 2017; & Rajhans & Kaur, 2013). WACC is the cost of capital representing the aggregate used in the proportion of debt and equity. It was considered as one of the key component of company evaluation and business decision-making (Battisti, Bollani, Miglietta, & Salvi, 2020). The dividend per share (DV) was used to resemble the dividend policy (Kiadeh, Jamshid, & Dehghan, 2014). It is expected that dividend policy posits significant relations as indicated by the studies of Ozuomba and Ezeabasili (2017), Anton (2016), Al-Malkawi, Rafferty, & Pillai, 2010 and Walter (1963). They specified dividend as a signalling model and exerts great influence on the value of firms. Next, the ratio of tangible assets to total asset was used to represent asset tangibility (AT) (Al-Slehat, 2020; Dholea, Mishrab, & Pal, 2019). Lastly, to control firm size, the current study used the logarithm of total assets (SIZE) (Boyd et al. 2006). According to Maury and Pajuste (2005), larger and mature firms tend to exhibit lower firm value.

The indicator for firm value was represented by the Tobin's Q ratio, which is one of the most commonly used measures demonstrating firm value (See in Atan et al., 2017; Saadiq et al., 2020; Pellegrini et al., 2019; Yip & Lee, 2018; Othman et al., 2011). Also known as the market ratio, it is used to compare with the market value of the company's stock with the book value of the company's equity or the value of the replacement of company assets. If the value of Tobin's Q is greater than one, it indicates a good performance. It designates the market values of the firm's assets are greater than the actual cost (Chung & Pruitt, 1994; Gill & Obradovich, 2013). The calculation is as follows:

$$TobinQ\ (TQ) = (Market\ Value\ of\ Equity + Liabilities)/\ Total\ Asset \quad (1)$$

In an attempt to scrutinise the effect of ESG score and other firm specific variables, the current study formulated the main research hypothesis as follows:

HI: There is an association between ESG and firm value

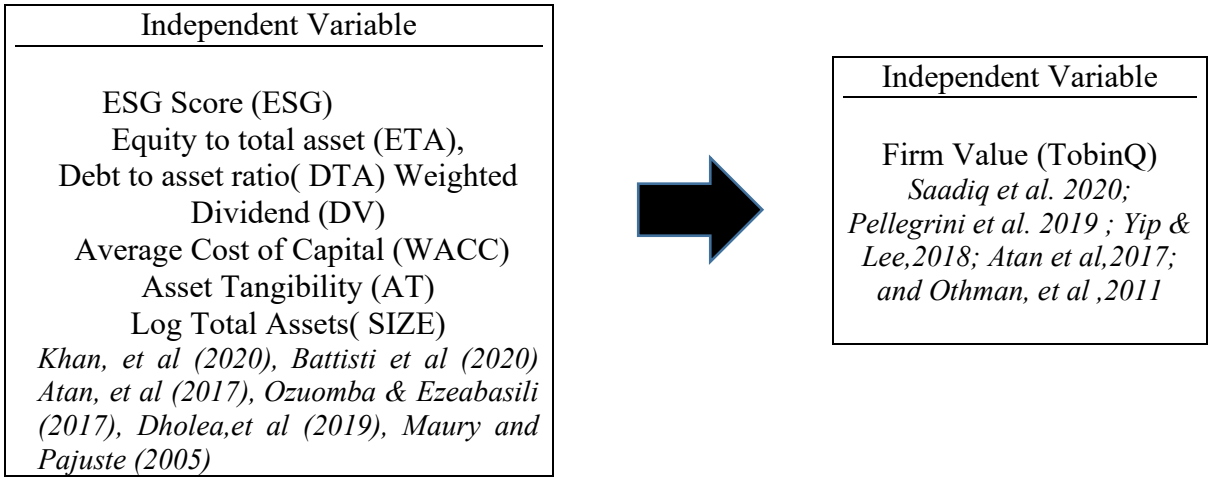

Figure 1: Theoretical Framework

Research Methodology

The current study used unbalanced panel data for 70 constituents of the F4GBM Index Bursa Malaysia based on the availability of ESG score provided for the years 2009 to 2018 with 512 observations. The panel data had the ability in controlling heterogeneity, which contributed towards unbiased results. Additionally, the efficiency of the panel data was captured due the capacity in mitigating the multicollinearity problems that arise in cross-sectional or time-series data (Griliches & Hausman, 1986). All data were extracted from the Thomson Routes Database after excluding financial companies due to the difference in their financial structure. This study assumed the constituents' firm value to be dependent across varied years, making Pooled Ordinary Least Squares (OLS) as inappropriate for the study's structure. Therefore, the static panel data using Random Effect (RE) and Fixed Effect (FE) were applied to test the model estimation. In examining the impact of ESG towards the firm value, the panel regression equation that includes repeated observations on the same set of cross-section units was proposed as follows:

$$TQit = \alpha + \beta_1 ESG_{1it} + \beta_2 DTA_{2it} + \beta_3 ETA_{3it} + \beta_4 WACC_{4it} + \beta_5 DV_{5it} + \beta_5 AT_{5it} + \beta_6 SIZE_{6it} + \varepsilon_{it} \quad (2)$$

The subscripts i and t representing the firms (cross-section) and time (time series) respectively and εit is the random disturbance which may exist due to the presence of some outliers in data set.

Findings

Initially, in validating the problems of multicollinearity among variables, the variance inflation factor (VIF) and the pairwise correlation (PWC) were run. The result indicated no presence of multicollinearity among the variables since the VIF values for all observations reported were less than 10 (García, García, López, Martín, & Salmerón, 2014). The VIF results for the current study were ESG (1.17), WACC (1.31), DTA (1.39), ETA (1.92), AT (1.32), DV (1.32), and SIZE (1.54) with the mean VIF of 1.42. To confirm the VIF outcomes, the pairwise correlation (PWC) analysis was performed with the highest correlation coefficient repressor value reported, which was for DPS (0.6877). The current results were less than the threshold (<0.80) and as indicated by Gujarati (2014), a value larger than 0.80 in their coefficient repressors signified multicollinearity problems that required the omission of the variable. Therefore, both analyses supported the nonexistence of multicollinearity, revealing that multicollinearity was

not a detrimental issue for developed multiple regression estimations. The model specification developed with the selected variables was valid for prediction.

In confirming the existence of specific effects or heterogeneity in the model prediction, the Breuch-Pagan Lagrange Multiplier (BP-LM) test (Breusch & Pagan, 1980) was used to separate between the Pooled OLS and RE. The results for best-fit model between the Pooled OLS and RE are depicted in Table 1. The results illustrated that RE was the best-fit model in explaining the relationship between the ESG scores and other selected IV with firm value. As described in Table 1, the BB-LM reported a chi-bar-square value of 1194.87 with the probability significant at 99% confidence level ($P < 0.01$). This rejected the null hypothesis that the slopes and intercepts were similar across the firm. The results indicated existence of firm random-specific effects on the data, thus the RE model provided a better estimation. Therefore, the pooled estimator might provide a biased result since the error term led towards serial correlations between both observations.

Next, the Hausman specification test (Hausman, 1978), also called the Durbin–Wu–Hausman (DWH) test, was performed to detect for endogeneity in the model estimation. It was used to identify the final best-fit model prediction between RE and FE. The DWH result as reported in Table 1 indicated the chi-bar-square value of 64.70 with the probability significant at 99% confidence level. Since the p-value for the test was < 1%, the results evidenced the preferences of FE against the random effect model. The model prediction assumed the existence of the firm specific intercepts. It captured the effects of variables particular to that specific firm by eliminating the time invariant. Therefore, the interpretation of results was based on the FE model.

Afterwards, the heteroskedasticity diagnostic test and serial correlations were performed on the selected FE model and the results are reported in Table 1. The modified Wald Statistic for groupwise heteroskedasticity in the residual of the FE regression model (Greene, 2000) indicated a chi-bar-square of 70737.91 with the probability significant to 99% confidence level. This signified the problem of heteroskedasticity and confirmed the nonconsistency of the variances for the selected model. The Woolridge test for autocorrelation in the panel data was performed and the result indicated the X^2 value was significant at 0.000 with F-value of 18.508, thus implying the presence of variance inequality. The panel model indicated serial correlation problems. To rectify the problems of heteroskedasticity and serial correlation, the OLS with heteroskedasticity and serial correlation robust standard error (Hoechle, 2007) were conducted and the results are depicted in Table 1.

Based on the results of robust FE, the ESG score, WACC, DV, AT, and SIZE were significant and portrayed existence of a relationship with firm value, which was designated by TQ. Meanwhile, DTA and ETA had insignificant results. The results suggested a significant positive coefficient (1.72) at 10% significance level between the ESG scores of the listed firms in relation to TQ. The increase in ESG scores was able to surge firm value, which supported the previous studies by Saadiq et al. (2020), Aouadi and Marsat (2018), Yip and Lee (2018), and Atan et al. (2017). Nevertheless, it contradicted with the study by Bing and Li (2019), which signified negative relations with firm value.

As for WACC, it had a significant impact on firm value, which was signified by the positive coefficient (+4.05) at 1% significance level. The results supported the study by Rajhans & Kaur (2013). Theoretically, the value of the business was derived from all expected future cash flows generated by the assets, and discounted at the company's WACC (Bringham & Ehrhard, 2002). This supported its direct impact towards firm value. Higher WACC indicated higher cost of debt and cost of equity capital used in financing business operations. This resembled the importance of financing mix for firms by significant improvement in firm value.

Table 1: Results of Pooled OLS, Random Effect GLS and Fixed Effect and Robust OLS with Hetero & Serial Correlation

	Model (1) Pooled OLS	**Model (2) Random Effect**	**Model (3) Fixed Effect**	**Model (4) OLS with Hetero & Serial Correlation**
Constant	9.27	2.24	-2.95	-1.29
	(0.000)	(0.025)	0.003	(0.201)
ESG	4.90	3.86	2.91	1.72
	(0.000)***	(0.000)***	(0.004)**	(0.090)*
DTA	2.06	0.68	-0.91	-0.55
	(0.000)***	(0.499)	(0.365)	(0.581)
ETA	-3.63	-1.23	-1.55	-0.69
	(0.002)***	(0.219)	(0.121)	(0.490)
WACC	5.13	3.45	5.10	4.05
	(0.000)***	(0.001)***	(0.000)***	(0.000)***
DV	22.79	13.63	8.75	4.06
	(0.000)***	(0.000)***	(0.000)***	(0.000)***
AT	2.01	2.55	1.69	2.63
	(0.045)**	(0.011)**	(0.092)*	(0.010)**
SIZE	-13.06	-1.58	4.72	1.92
	(0.000)***	(0.114)	(0.000)***	(0.059)***
BP- LM Test	489.34(0.0000)***		-	-
Hausman Test	-	45.09(0.0000)***		-
Observation	688	688	688	688
r-square	0.6213	0.5466	0.1070	0.1070
Model Fit(F-stat)	159.36		23.19	13.37
	(0.000)***		(0.000)***	(0.000)***
Multicollinearity (mean VIF)	1.21	1.21	1.21	1.21
Heteroskedasticity ($\varkappa^2$-Stat)	-	-	70737.90 (0.000)***	-
Serial Correlation (F-Stat)	-	-	18.508 (0.000)***	-

[1] Figure in the parentheses is t-statistics, except for Bruech-pagan LM test, hausman test, heteroskedasticity and serial correlation test , which are p-values.
[2] Asterisks *, ** and *** denote statistical significance level respectively at 10%, 5% and 1%.

Next, DV also posited a significant positive relation with TQ with the positive coefficient (+4.06) at 1% significance level similar with the studies by Ozuomba & Ezeabasili (2017), Anton (2016), and Kiadeh et al. (2014). The results thus indicated relevancy of dividend policy imposed by the firms that exerted great influence in firm value. This supported the standing literature by Walter (1963), which postulated that the dividend policy imposed continuously affected the value of the firm. However, it was in contrast with the irrelevance dividend policy by Miller and Modigliani (1961), which indicated that dividend policy was irrelevant to firm value.

Additionally, AT signified positive significant relations with firm value, which was resembled by the positive coefficient (+2.63) at 1% significance level, similar with Al-Slehat (2020). Finally, the current study also evidenced positive significant relations between firm size (SIZE) and firm value positive coefficient (+1.92) at 10% significance level, similar with Al-Slehat (2020) and Manoppo & Arie (2016). Nevertheless, it contradicted with Hirdinis (2019). Given that a bigger firm is more diversified experienced in growth, it is less risky, in which investors will respond positively; thus it is advantageous in influencing growth in firm value. El Ghoul

et al. (2011) argued that larger firms attracted wider media and analyst coverage, which reduced information asymmetry and improved firm value.

Discussion and Conclusion

The current study aimed to investigate the relationship between firm values and the ESG practices among 70 constituents of the F4GBM Index Bursa Malaysia. The robust FE results from Table 1 signified the significant relationships between firm value represented by TQ with the ESG score and other firm specific variables, namely WACC, dividend policy, asset tangibility, and firm size. Meanwhile, there were insignificant relations with debt ratio and equity ratio. The model fit showed accuracy at 99% confidence level with F-value of 13.37. Consequently, the test results supported Hypothesis 1, affirming its efficiency for predictions. The hypothesis has also been proven as the test results implied that imposing higher transparency in environmental concern, governance accountability, and social concern enhanced firm value from Malaysia's perspective. These results were consistent with the findings of Saadiq et al. (2020), Aouadi & Marsat (2018), Yip & Lee (2018), and Atan et al (2017). The results evidenced that with the decision of imposing greater transparency and accountability based on the ESG policy of constituents, firms were able to improve stakeholders' perceptions and confidence and hence boosting their firm value.

On the other hand, other firm specific variables also indicated positive significant relations with firm value, except for debt ratio and equity ratio. The significant positive results of WACC with firm value was supported by Rajhans & Kaur (2013). Therefore, the current study proposed that WACC was the more prominent factor in predicting the changes in firm value as compared to debt and equity ratios. The study failed to disclose whether using debt or equity was preferable since both variables indicated insignificants relations to firm value enhancements, which provided an insight for further exploration. The positive relations between dividend policy and firm value were similar with Ozuomba & Ezeabasili (2017), Anton (2016), and Kiadeh et al. (2014). This suggested that increasing dividend payments, ceteris paribus, might be associated with the increase in firm value (Al-Malkawi,et al 2010). The results evidenced that the existence of natural clienteles for dividend paying stocks thus served the objective of the investors in maintaining a stable source of cash. Additionally, this supported the Gordon and Lintner's theory of "bird-in-the-hand" hypothesis, which proposes that a firm's ability in paying higher dividends will help to maximize the firm's value. It also proposes that investors prefer dividends to capital gains due to the earning uncertainty if the earnings being retained by the firms. This is demonstrated by the higher demand for dividend paying stocks, and is further translated to premium prices for these stocks, thus increasing the value of the firms.

Asset tangibility also signified positive impacts with firm value, as supported by the findings in Al-Slehat (2020). Higher AT value was able to provide creditors with a high level of confidence in the case of bankruptcy since they would be able to liquidate more assets (Baker & Martin, 2011), which brings an added value to the firms. In addition, its function as the collateral in securing financing from banks imposed the firms' financial strengths that also built confidence among the shareholders, thus bringing benefits to the firms' value. Finally, the current study proposed that a larger firm size was able to increase firm value, as supported by the previous studies done by Al-Slehat (2020) and Manoppo and Arie (2016). Rationally, firms with larger asset composition have the ability to fully utilise their resources in generating maximum profits. Therefore, the growing size of firms will capture investors' interest towards the firms that will elevate the stock prices and successively increase firm value (Brealey et al., 2011).

Due to the fact that the current study did not analyse the effects of ESG from the viewpoints of the whole sectors in Bursa Malaysia, this formed limitations towards the current study. Nonetheless, it is hoped that this study could provide a significant contribution towards the literature on ESG and firm valuation from Malaysia's perspective. Despite the presence of plentiful studies on ESG and firm valuation, it still remains a wide research area that requires further considerations. It is urged that the study is further improved with more proxies to measure ESG and firm value indicators. Therefore, this study is left to be further explored in the future.

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