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The Influence of Corporate Governance and Corporate Social Responsibility on Financial Performance in ASEAN-5

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ABSTRACT

This study aims to analyze the influence of Corporate Governance and Corporate Social Responsibility on corporate financial performance in ASEAN-5, focusing on two performance indicators, namely Tobin's Q and Return on Assets (ROA). The method used was a regression analysis of panel data with secondary data from 144 companies listed on S&P Capital IQ during the period 2019 to 2023. This study employs the Fixed Effects research model for Model 1, while Model 2 utilizes the Random Effects model. The results of the study show that external corporate governance has no significant effect on financial performance, as measured by Tobin's Q. In contrast, debt financing has a negative impact on ROA's financial performance. In addition, market competition, as measured by the Herfindahl-Hirschman Index (HHI), did not affect Tobin's Q or ROA, while the ESG score showed no significant impact on either Tobin's Q or ROA. These findings offer valuable insights for companies to manage debt and develop sustainable strategies that enhance financial performance in a competitive market.

***Keywords*:** Tobin's Q, Return on Asset (ROA), Debt Financing, Product Market Competition, ESG, dESG.

INTRODUCTION

Corporate financial performance is a vital metric for evaluating a firm's market value and operational efficacy. Tobin's Q, which represents the ratio of a company's market value to the replacement cost of its tangible assets, is extensively utilized in corporate finance and governance research. However, prior research (Bartlett & Partnoy, 2020; Ishaq et al., 2021) draws attention to its shortcomings, which include its susceptibility to market fluctuations, its excessive reliance on accounting-based indicators, and the potential for overstating contributions from intangible assets (Butt et al., 2023). These deficiencies prompt apprehensions regarding its dependability as the exclusive metric of corporate achievement, particularly in scenarios where intangible elements, such as marketing, human capital, and innovation, are pivotal.

To address this, Return on Assets (ROA) is often employed as a complementary indicator, focusing on profitability and operational efficiency derived from total assets (Panigrahi & Vachhani, 2021; Singh et al., 2024). The interplay between corporate governance, debt financing, and product market competition in emerging economies substantially influences the performance of firms. In the short and long term, debt financing has the potential to increase the value of a firm; however, it is associated with repayment obligations that require meticulous governance oversight (Naomi, 2023). Several studies have demonstrated contradictory results, with some indicating that debt is beneficial to performance measures, while others warn against the possibility that it could have a negative impact on operational outcomes (Danevska et al., 2023; Jones & Onatuyeh Aruobogha, 2020). Product market competition, as a governance mechanism, can push managers to maximize firm value; however, it may

also compress profitability in highly competitive circumstances (Tsendsuren et al., 2021; Babar & Habib, 2020).

In recent years, corporate strategy has become increasingly reliant on sustainability considerations, particularly Environmental, Social, and Governance (ESG) practices. ESG initiatives are not only linked to increased investor confidence and reputation, but they are also positioned as catalysts for sustainable development (Li et al., 2021; Raghavendra Rau & Ting Yu, 2024). Nonetheless, empirical evidence regarding the relationship between ESG and performance remains ambiguous, exhibiting disparities between industries and regions. This is especially important for ASEAN-5 countries (Indonesia, Malaysia, Thailand, the Philippines, and Singapore), where businesses confront rapid economic expansion as well as increased demand to embrace strong governance and sustainability standards. Case studies, including Pertamina's efficiency issues resulting from green project financing, Petronas' balance of transparency and profitability, and CP All's debt-driven ROA fall, demonstrate the region's complicated trade-offs between financial efficiency and sustainability goals.

Despite the growing body of research, most studies do not consider the potential interrelationship between environmental, social, and governance (ESG) factors, product market competition, and loan finance. The purpose of this study is to fill this void by incorporating corporate governance and corporate social responsibility (CSR) as primary constructs. Furthermore, debt finance and product market competitiveness are viewed as governance processes rather than as independent aspects. To obtain a more accurate representation of the social and environmental aspects pertinent to the ASEAN-5 setting, ESG is reframed as CSR.

This integrative approach aims to provide a more thorough knowledge of the factors influencing business financial performance in competitive and sustainability-oriented marketplaces. The results will offer practical insights for debt financing methods, sustainability policy development, and market competition management, enhancing both corporate governance theory and regional business practices.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Agency theory Jensen & Meckling (Jensen & Meckling, 1976)It addresses conflicts of interest that arise when one party (the agent) is entrusted to act on behalf of another party (the principal). In the context of corporate governance, this theory explains the relationship between shareholders (principals) and managers (agents), highlighting potential agency problems that may lead to inefficiencies. Over time, the framework has expanded to encompass a broader range of stakeholders, including employees, customers, suppliers, and communities, reflecting the increasing relevance of corporate social responsibility (CSR). According to Hill & Jonfs, (1992) emphasize the importance of stakeholder interests in efficient governance frameworks to reduce agency costs and increase business performance.

Stakeholder theory Freeman (Freeman, 1984) contends that corporations should consider the interests of all stakeholders, rather than just those of shareholders. The stakeholders encompass employees, consumers, suppliers, and the wider community. Berman et al., (1999) Discovered that companies with robust stakeholder orientations typically attain superior financial results, indicating that proactive stakeholder involvement can improve both reputation and profitability. This theory establishes a conceptual framework for merging corporate governance with corporate social responsibility, promoting solutions that extend beyond financial gains to encompass sustainability and

social accountability. Product market competition influences corporate investment and innovation decisions. Amini et al., (2024) exhibit that enterprises in very competitive sectors allocate greater resources to physical capital and research and development (R&D) than those in concentrated markets. This corresponds with agency theory, as competitive pressure can diminish management slack and promote more efficient capital allocation.

According to Januszewski et al., (2002) A correlation was also discovered between competition and increased levels of productivity and innovation. Lower HHI values are indicative of more dispersed market share, increased competition, and stronger incentives for innovation. The Herfindahl-Hirschman Index (HHI) is a widely used metric for assessing market concentration. In contrast, concentrated markets are indicative of high HHI values, which may diminish innovation incentives. Consequently, it is imperative to comprehend product market competition to evaluate the performance of a firm and to inform policies that foster long-term economic growth.

Tobin's Q, initially developed by Nicholas Kaldor (1966) and later popularized by Nobel laureate James Tobin, measures a firm's market value relative to the replacement cost of its assets (Adam Hayes, 2024). A ratio greater than one indicates that the market values the firm above its replacement cost, signaling growth potential. According to Puni & Anlesinya, (2020) suggest Tobin's Q as a valuable metric for evaluating investment decisions and future growth prospects. Return on Assets (ROA), on the other hand, measures operational efficiency in generating profits from total assets before financing effects. Singh et al., (Singh et al., 2024) note that ROA reflects a firm's ability to utilize assets effectively to create value. Using both Tobin's Q and ROA allows for a more comprehensive assessment of financial performance from both market-based and accounting-based perspectives.

Corporate governance refers to the systems, mechanisms, and structures used to direct and control an organization. Good governance can align managerial actions with shareholder interests, enhancing efficiency and long-term growth (Bhagat & Bolton, 2008). However, Guluma (2021), cautions that behavioral factors, such as managerial overconfidence, can undermine governance effectiveness, weakening board oversight and potentially leading to detrimental decisions. This highlights the importance of incorporating behavioral considerations when examining the relationship between governance and performance.

Corporate Social Responsibility encompasses a company's ethical, social, and environmental commitments that extend beyond legal and economic obligations. Carroll (Carroll, 2015) defines CSR as including economic, legal, ethical, and philanthropic responsibilities, framing it as both a societal expectation and a strategic tool for value creation. Effective CSR initiatives can enhance legitimacy, strengthen reputation, and provide competitive advantages. Lu et al., 2021) emphasize the role of governance in facilitating CSR implementation, arguing for structured approaches to address social and environmental issues. Within the ASEAN-5 context, CSR plays a pivotal role in balancing profitability with sustainability, enabling firms to meet evolving stakeholder expectations while competing in dynamic markets, and this framework thinking on research is explained in Figure 1.

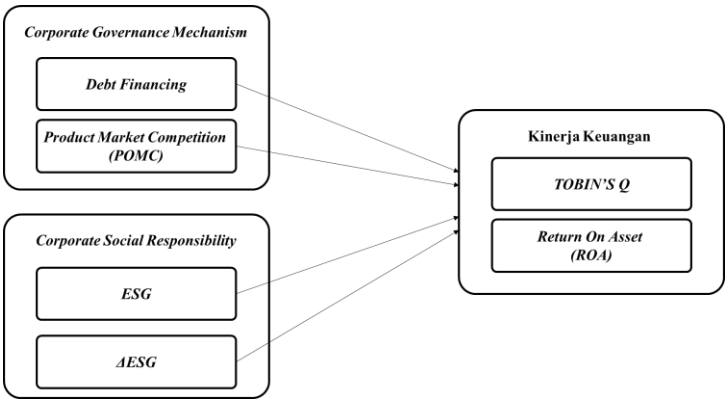

Figure 1 : Debt Financing, Product Market Competition, ESG, and dESG

Debt Financing and Financial Performance

Debt financing has a significant negative impact on the market value of the Company. It is found that the higher the proportion of debt in the Company's capital structure, the lower the Tobin's Q value will reflect a decline in market perception. In addition, Companies with high debt levels may face limitations in financial flexibility, thus inhibiting investments that can increase the Company's value in the market (Desai, 2021). The existence of short-term debt financing can have a negative impact on equity, thus providing insignificant results on Tobin's Q. In contrast, long-term debt to equity and total debt to assets show a significant positive effect.

(Danevska et al., 2023) argue that while debt can improve a company's market performance indicators, such as Tobin's Q, it can also decrease a company's operational performance in accounting aspects. When companies have a high debt burden, they may face limitations in financial flexibility, which can hinder the investments needed to improve operational efficiency and, ultimately, lower ROA. (Nazir et al., 2021) argue that both short-term and long-term debt can have a significant negative impact on a company's performance. This is due to agency issues, where managers may make decisions that are not in the best interests of shareholders when the company has high levels of debt. Reliance on debt can result in risky policies, which in turn can lower ROA. Therefore, companies need to consider good corporate governance to manage debt effectively and improve financial performance (Nazir et al., 2021). Based on the literature explained earlier, the hypothesis related to debt financing on financial performance is as follows:

$H1_a$: Debt financing has a positive effect on Tobin's Q financial performance.

$H1_b$: Debt Financing has a negative effect on ROA financial performance.

Product Market Competition (POMC) and Financial Performance

The more competitive the market, the greater the pressure to increase operational efficiency, optimize business strategies, and improve product quality to maintain a competitive edge. This contributes to the improvement of the company's market value, which is reflected in Tobin's Q. (Xuan & Thi TRAN, 2021). Increasing competition pushes companies to optimize governance, improve operational efficiency, and develop more effective business strategies and competitive advantages. With better governance, a company can increase transparency and accountability, which ultimately increases investor confidence and the company's market value. This is reflected in Tobin's Q, which is higher,

showing that companies with intense market competition tend to have better performance and higher valuation (Xuan Ha & Thi Tran, 2022). Increasing competition causes companies to face more external pressure, so they reduce their contribution to decreasing ROA This shows that in an environment with high competition, companies tend to have trouble maintaining a stable profit level. (Sabuj Hossain et al., 2022). Improvement competition in the market encourages companies to increase operational efficiency and governance, so that they contribute to improved performance measured by finance with ROA. With better governance, a good company capable of optimizing its source power and business strategy can produce greater profitability (Xuan Ha & Thi Tran, 2022). Based on the literature explained previously, the hypothesis related to debt financing against performance finance is as follows:

$H2_a$: Product market competition (POMC) has a positive effect on the performance of Tobin's Q
$H2_b$: Product market competition (POMC) has a negative effect on the performance of ROA

ESG and Financial Performance

Dimensions of environmental, social, and governance (ESG) have a positive correlation with Tobin's Q, which reflects the company's market performance. This indicates that practicing CSR is not enough to answer social company (CSR) can increase a company's market value through improving its reputation and investor (Rocha et al., 2024) confidence, score ESG risks have a significant negative influence on the performance of financial companies, particularly on Return on Assets (ROA), which shows that improving ESG risks can reduce a company's efficiency in producing profit from its assets owned (Shobhwani & Lodha, 2024). Based on the literature explained previously, the hypothesis related to debt financing performance is as follows:

$H3_a$: ESG has a positive effect on performance Tobin's Q
$H3_b$: ESG has a negative effect on the performance of ROA.

***ΔESG* and Financial Performance**

Companies that have better ESG performance tend to have higher market value, in line with the theory that states that practicing responsible business practices increases investor confidence and operational efficiency (Yu & Xiao, 2022). More ESG practices increase transparency and operational efficiency, which ultimately contribute to the improvement of the bank's market value. In addition, the impact of ESG on financial performance is sensitive to time, where ESG activities each year have a greater influence compared to ESG activities of the previous year (Prasad & Mondal, 2025). Although there is hope that Corporate Social Responsibility (CSR) practices and Environmental, Social, and Governance (ESG) scores can increase a company, results analysis show that there is no significant connection between measured CSR performance through ΔESG and the company's Return on Assets (ROA) (Sachin & Rajesh, 2022). According to ESG information, it has a positive influence on a company, including ROA, which shows that more companies that are Good at expressing and implementing ESG initiatives tend to have better financial performance (Makhdalena et al., 2023). Based on the literature explained previously, the hypothesis related to debt financing against performance finance is as follows:

$H4_a$: ΔESG has a positive effect on the performance of Tobin's Q

$H4_b$: ΔESG has a positive effect on the performance of ROA

METHODOLOGY

The population in this study consists of companies listed on the stock exchanges in each of the ASEAN-5 countries, namely Indonesia, Malaysia, Singapore, the Philippines, and Thailand, which are the population of this study with a time span of the last five years, namely from 2019 to 2023—Figure 2.

Keterangan	***Total***
Perusahaan publik yang terdaftar pada ASEAN-5 yang mengungkapkan ESG *Score* selain sektor keuangan	672
Dikurangi : Perusahaan yang tidak mempublikasikan skor ESG periode 2019 - 2023 secara tidak transparan (data diprivat) dan tidak lengkap	-526
Dikurangi : Data tidak sesuai kriteria (data keuangan tidak lengkap/ terbaca pada platfrom S&P Capital IQ)	-2
Perusahaan yang dijadikan dalam sampel penelitian	144
Periode penelitian	5
Jumlah sampel penelitian (sampel x periode)	**720**

Table 1. Operational Variables

Variable	Formula	Source
Financial Performance Variables		
Tobin's Q	$Tobin's\ Q = \frac{Total\ Market\ Value\ of\ Company + Liabilities}{Total\ Asset\ Value}$	S. Singh et al., (2018)
Return On Assets	$Return\ On\ Asset = \frac{Net\ Income}{Total\ Assets}$	R. Singh et al., (2024)

Corporate Governance Mechanism Variable		
Debt Financing	$Long\ Term\ Debt = \frac{Long - term\ debt}{Total\ Asset}$ $Short\ Term\ Debt = \frac{Short - term\ debt}{Total\ Asset}$ $DAR = \frac{Short + Long\ Debt}{Total\ Asset}$	Farichatul Chusna, (2024) Okanda et al., (2025)
Product Market Competition	$HHI = \sum_{i=1}^{n} (S_{ij}{}^2)$ $Sij\ (pangsa\ pasar) = \frac{Penjualan\ bersih}{total\ penjualan\ bersih}$ $HHI = s_1{}^2 + s_2{}^2 + s_3{}^2 + \ldots s_n{}^2$	Michael Bromberg, (2024) (Sabuj Hossain et al., 2022)
ESG	*ESG Score*	Kuzey et al., (2021)
ΔESG	$ESG\ Score\ tahun\ sekarang - ESG\ score\ tahun\ lalu$	Shaikh, (2021)
Control Variable		
Size	ln (Total Assets)	Ali et al., (2022)
Leverage	$DER = \frac{Total\ Debt}{Total\ Equity}$	Abbas Ibrahim & AbdulQudus, (2020)
GDP Growth	$Growth = \frac{GDPt - GDPt-1}{GDPt-1}$	Caroline Banton, (2025)
Covid-19	The dummy variable is given a value of 1 if the data comes from the pandemic period (2020-2021) and is given a value of 0 if the data comes from the period before or after the pandemic.	Tim Content KlikDokter, (2020)

Data analysis using panel regression analysis. First, this study runs Hausman to assess model specifications. Second, this study runs classical assumption tests, including normality, multicollinearity, autocorrelation, and heteroscedasticity. Fourth, this study runs cross-dependence. The regression model can be seen in the equation:

$$TOBIN'S\ Q_{\ it} = \beta_1 DAR + \beta_2 HHI + \beta_3 ESG + \beta_4 \Delta ESG + \beta_5 Size + \beta_5 DER + \beta_6\ GDP\ Growth + \beta_7\ Cov + \epsilon_{it}$$

$$ROA_{\ it} = \beta_1 DAR + \beta_2 HHI + \beta_3 ESG + \beta_4 \Delta ESG + \beta_5 Size + \beta_5 DER + \beta_6\ GDP\ Growth + \beta_7\ Cov + \epsilon_{it}$$

Description:

Table 2. Decription

Financial Performance Variables:	
TQ	Tobin's Q
ROA	Return on Assets
Corporate Governance Mechanism Variable:	
DAR	Debt Financing
HHI	Product Market Competition
ESG	Environmental, Social, Governance
ΔESG	ESG score changes
Control Variable	
Size	Firm Size

DAR	Leverage
GDP Growth	GDP Growth
Cov	Covid – 19
ϵit	error
β_(1-5)	Coefficient Variable

RESULTS

A. Descriptive Statistical Analysis

Table 3. Descriptive Statistical

Variable	Obs	Mean	Std. dev.	Min	Max
Tobin's Q	720	1.482432	1.740213	0.1028629	15.62636
ROA	720	0.0465572	0.1042066	-1.105454	0.7934309
DAR	720	0.3199162	0.1929835	0	1.117106
HHI	720	0.4156885	0.2378627	0.178059	1
ESGScore	720	53.82404	17.97798	6.658737	91.83437
ΔESGScore	720	3.381699	7.592047	-20.09869	70.20269
DER	720	0.9913329	5.34612	-4.588824	131.0401
SIZE	720	22.29665	1.198467	18.80176	25.33498
GDPGROWTH	720	0.0249732	0.0458343	-0.0951829	0.0969077
COVID19	720	0.4	0.4902385	0	1

This study consists of 720 observations from 144 non-financial companies in ASEAN-5 over the 2019–2023 period. The average value of Tobin's Q is 1.4824 and ROA is 4.66%, indicating that, in general, companies have market values above their book values and can generate profits, despite considerable performance variation. The highest Tobin's Q value reaches 15.63, while the lowest is 0.10. For ROA, the highest value is 79.34% and the lowest is -111%.

The average Debt-to-Asset Ratio (DAR) is 31.99%, indicating a moderate capital structure, with a maximum value of 111.71% and a minimum of 0. This reflects differences in debt utilization strategies among companies. The Herfindahl-Hirschman Index (HHI), as a proxy for market competition, has an average of 0.4157, indicating a relatively competitive market structure with moderate stability. The maximum HHI value is 1, showing high market dominance, while the minimum value of 0.178 reflects intense competition. The average ESG score is 53.82, indicating a reasonably good level of sustainability practices with limited fluctuation. The change in ESG (ΔESG) shows an average annual increase of 3.38%, although significant variations exist among firms.

The average Debt-to-Equity Ratio (DER) is 0.99, with a high standard deviation, indicating significant differences in capital structure. Firm size (SIZE), measured by the natural logarithm of total assets, averages 22.29 with a low standard deviation, suggesting stable firm sizes. GDP Growth has an average of 2.5%, reflecting relatively stable macroeconomic conditions during the study period. The COVID-19 dummy variable (COV) has an average value of 0.4, indicating that approximately 40% of the observations occurred during the pandemic period (2020 – 2021), thus allowing for analysis of crisis impacts on firm performance.

B. Correlation Coefficient Analysis

Table 4. Correlation Coefficient

VARIABEL	TOBIN'S Q	ROA	DAR	HHI
TOBIN'S Q	1			
ROA	0.3350***	1		
DAR	-0.2192***	-0.2823***	1	
HHI	0.0258***	-0.087***	-0.0220***	1
ESG SCORE	-0.0067***	0.0286***	-0.0145***	-0.0705***
ΔESGSCORE	-0.0474***	0.0050***	0.0392***	-0.0273***
DER	-0.0344***	-0.1895***	0.1882***	0.0547***
SIZE	-0.3767***	-0.1148***	0.3145***	-0.1455***
GDPGROWTH	-0.0441***	0.0811***	-0.0320***	-0.0179***
COVID19	0.0342***	-0.0374***	0.0403***	-0.0200***
***,**,* SHOWS SIGNIFICANCE AT 1%, 5% DAN 10% LEVEL				
VARIABEL	ESG SCORE	ΔESGSCORE	DER	SIZE
ESG SCORE	1			
ΔESGSCORE	0.0549***	1		
DER	0.0142***	-0.0173***	1	
SIZE	0.0002***	0.0856***	0.0270***	1
GDPGROWTH	0.0201***	0.0017***	-0.0079***	0.0232***
COVID19	-0.0484***	0.0034***	-0.0303***	-0.0068***
***,**,* SHOWS SIGNIFICANCE AT 1%, 5% DAN 10% LEVEL				
VARIABEL	GDPGROWTH	COVID19		
GDPGROWTH	1			
COVID19	-0.5555***	1		

Shows a significant positive correlation between ROA and firm value (Tobin's Q) with a coefficient of 0.3350 (**), indicating that profitability enhances firm value. In contrast, DER has a significant negative correlation of -0.0344 with Tobin's Q, suggesting that higher leverage is associated with lower firm value.

ESG Score and its change (ΔESG) also show significant negative correlations with firm value, at −0.0067* and −0.0474*, respectively. Firm size (SIZE) and GDP Growth are negatively correlated with Tobin's Q, with coefficients of −0.3767* and −0.0441*, respectively.

Meanwhile, HHI has a small but significant positive correlation (0.0258*) with Tobin's Q, and COVID-19 shows a negative correlation (-0.0342*), implying the pandemic negatively affected firm value. No multicollinearity was detected, as all correlation values between independent variables were below 0.8, supported by low inter-variable correlations such as ESG and DER (0.0142*), SIZE and DER (0.0270*), and ESG and SIZE (0.0002*).

C. Classical Assumption Test

The normality test in this study employed the Shapiro–Wilk method. As shown in Table 5, the probability value indicates that the data are not normally distributed.

Table 5. Shapiro–Wilk Before Box-Cox Treatment

Shapiro-Wilk W Test for Normal Data					
Variable	Obs	W	V	Z	Prob>z
Tobin's Q	720	0.55538	208.003	13.038	0

After applying the treatment, as presented in Table 6, the data remained non-normally distributed and were therefore reverted to their original state before treatment.

Table 6. Shapiro–Wilk After Box-Cox Treatment

SHAPIRO-WILK W TEST FOR NORMAL DATA					
VARIABLE	OBS	W	V	Z	PROB>Z
TOBIN'S Q	720	0.95941	18.987	7.19	0

However, considering that the number of observations in this study is 720, which exceeds 200, the violation of normality can be disregarded based on the *Central Limit Theorem*. Therefore, the data in this study are considered to meet the assumption of normality.

Table 7. Variance Inflation Factor

Variable	VIF	1/VIF
SIZE	19.33	0.05174
ESGScore	9.8	0.102031
DAR	4.12	0.242801
HHI	3.94	0.253532
COV	2.41	0.415096
GDPGROWTH	1.88	0.53142
ΔESGScore	1.21	0.827894
DER	1.08	0.925854
Mean VIF	**5.47**	

Furthermore, the multicollinearity test was conducted using the *Variance Inflation Factor* (VIF). As presented in Table 4.11, both Model 1 and Model 2 have an average VIF value of 5.68 (< 10). Additionally, the VIF values for each independent variable, ESG Score at 9.8 (< 10), DAR at 4.12 (< 10), HHI at 3.94 (< 10), and ΔESG Score at 1.21 (< 10), are all below the threshold. Thus, it can be concluded that no multicollinearity issues exist among the independent variables in this study.

Table 8. Breusch–Pagan Lagrangian Multiplier Test

Research Model 1	
chi-square (143)	2137.46
Prob > chi-square	0,0000

Heteroscedasticity was tested using the Breusch–Pagan Lagrangian Multiplier Test. For Model 1 (Table 8), the results show statistical significance, indicating the presence of heteroscedasticity.

Table 9. Breusch–Pagan Lagrangian Multiplier Test

Research Model 2	
chi-square (144)	747906.46
Prob > chi-square	0,0000

However, since the model employed is the Random Effect model, no corrective measures are required. For Model 2 (Table 9), the results are also significant, suggesting heteroscedasticity. Nevertheless, because the model specification is Fixed Effect, no further treatment is necessary.

Table 10. Wooldridge Test

Research Model 1
H0: *no first-order autocorrelation*
F(1, 143) = 20.806
Prob > F = 0.0000

Autocorrelation was tested using the Wooldridge Test. As shown in Table 10, Model 1 yields a statistically significant probability value, indicating the presence of autocorrelation.

Table 11. Wooldridge Test

Research Model 2
H0: no first-order autocorrelation
F(1, 143) = 0.055
Prob > F = 0.8147

Nonetheless, since the model used is a Random Effect model, no additional treatment is applied. In contrast, for Model 2 (Table 4.15), the test yields an F(1, 143) value of 0.055 with a p-value of 0.8147, which exceeds the 5% significance level. This result suggests that the null hypothesis (H_0), which states that no first-order autocorrelation exists, cannot be rejected. Therefore, Model 2 is free from autocorrelation and can be used without any specific corrective measures.

D. Model Specification Test

As presented in Table 12, the F-test results for Research Model 1 indicate a Wald chi^2 value of 131.97 with a probability (Prob > chi^2) of 0.0000. This probability is below the 0.05 significance level, suggesting that all Corporate Governance Mechanism and Corporate Social Responsibility variables jointly affect financial performance in Model 1.

Furthermore, as shown in Table 12, the coefficient of determination (R-squared) for Research Model 1 under the Random Effect approach is 0.1419. This implies that 14% of the variation in financial performance, measured by Tobin's Q, can be explained by the independent variables, namely Debt Financing, Product Market Competition, ESG, and ΔESG. In comparison, other factors outside the scope of this study explain the remaining 86%.

For the Cross-Sectional Dependency test of Model 1, the Pesaran's Test yielded a test statistic of 24.402 with a probability of 0.0000, indicating the presence of cross-sectional dependency. This suggests that there is a correlation among the cross-sectional units in the model, which may lead to biased and inefficient estimates. To address this issue, the Driscoll–Kraay method was applied, as it

adjusts the standard errors while accounting for both cross-sectional dependency and heteroscedasticity in panel data.

Table 12. Model Specification Test

Research Model 1	
Number of obs	720
Wald chi2 (8)	131.97
Prob > chi2	0,0000
Overall R–squared	0.1419
Pesaran's test of cross-sectional independence	24.402

As shown in Table 13, the F-test results for Research Model 2 reveal an F value of 55.58 with a probability (Prob > F) of 0.0008. Since this probability is lower than the 0.05 significance threshold, it can be concluded that all Corporate Governance Mechanism and Corporate Social Responsibility variables jointly influence financial performance in Model 2.

Furthermore, Table 13 presents the coefficient of determination (*R-squared*) for Research Model 2 under the Fixed Effect approach, which is 0.1826. This indicates that 18% of the variation in financial performance, as measured by ROA, can be explained by the independent variables: *Debt Financing*, *Product Market Competition*, ESG, and ΔESG. In comparison, the remaining 82% is attributed to other factors outside the scope of this study.

The *Cross-Sectional Dependency* test for Model 2 using the Fixed Effect approach yielded an F-test statistic of 1.355 with a probability (Prob > F) of 0.1754. Since this probability exceeds the 0.05 significance level, there is no statistical evidence of *cross-sectional dependency*. Therefore, the model does not require special adjustments for this assumption and can be directly applied for hypothesis testing.

Table 13. Model Specification Test

Research Model 2	
Number of obs	720
F (8,4)	55.58
Prob > F	0.0008
R – Squared (within)	0.1826
Pesaran's test of cross-sectional independence	1.355

E. T – Test Results

Table 14. Research Model 1

TobinsQ	Coefficient	Drisc/Kraay std. Eer	t	P - value (One-tailed)
DAR	0.0781326	0.4900881	0.16	0.4405
HHI	-0.116266	1.017651	-0.11	0.4575
ESGScore	-0.00335	0.0027051	-1.24	0.1415
ΔESGScore	0.002282	0.0030779	0.74	0.25
DER	-0.002966	0.0015306	-1.94	0.0625*
SIZE	-0.642971	0.2427629	-2.65	0.0285**
GDPGROWTH	-1.102356	0.3028408	-3.64	0.011***
COV	0.0440886	0.0370064	1.19	0.1495
_cons	16.02727	5.955644	2.69	0.0275**
***, **, * signifikan pada tingkat 1%, 5%, 10%				

The Random Effect regression results for Model 1 indicate that DAR (0.0781; p = 0.4405), POMC (−0.1163; p = 0.4575), ESG Score (−0.0033; p = 0.1415), and ΔESG Score (0.0023; p = 0.2500) are all statistically insignificant at the 10% level, leading to the rejection of Hypotheses H1, H2a, H3a, and H4a.

Table 15 Research Model 2

ROA	Coefficient	Drisc/Kraay std. Err	T	P>|t|
DAR	-0.3091013	0.0778733	-3.97	0.0085***
HHI	-0.3179905	0.2190234	-1.45	0.11
ESGScore	-0.000199	0.0001636	-1.22	0.1455
ΔESGScore	-0.0001335	0.0003901	-0.34	0.3745
DER	-0.0020046	0.0002911	-6.89	0.001***
SIZE	0.0286688	0.0113562	2.52	0.0325**
GDPGROWTH	0.1840908	0.0127783	14.41	0.000***
COV	0.0029062	0.0028789	1.01	0.185
_cons	-0.3542005	0.2165537	-1.64	0.0885*

The fixed effect regression results for Model 2 show that DAR (−0.3091; p = 0.0085) has a significant adverse effect on ROA, supporting Hypothesis H1b, while HHI (−0.3180; p = 0.1100), ESG Score (−0.0002; p = 0.1455), and ΔESG Score (−0.0001; p = 0.3745) are not statistically significant at the 10% level, leading to the rejection of Hypotheses H2b, H3b, and H4b.

Based on the research results that have been explained, Debt financing does not significantly affect firm value but negatively impacts financial performance (ROA), indicating that higher debt levels reduce efficiency in generating profits, supporting findings by (Jones & Onatuyeh Aruobogha, 2020), (Nazir et al., 2021), and (Danevska et al., 2023), who highlight the risks of excessive debt and the importance of careful debt management. Product Market Competition does not significantly affect firm value (Tobin's Q) or financial performance (ROA), indicating that market competition alone may not strongly influence market value or profitability, supporting findings by (Xuan & Thi TRAN, 2021), (Babar & Habib, 2020), and (Sabuj Hossain et al., 2022), who emphasize that internal strategies and

macroeconomic factors may play a more critical role, and firms must manage competition strategically to sustain long-term performance. ESG has no significant effect on firm performance as measured by Tobin's Q and ROA, indicating that while ESG practices may enhance reputation, they do not directly improve market value or operational profitability—aligning with studies suggesting that investors and financial outcomes are influenced more by other internal and external factors. ΔESG has no significant effect on firm performance measured by Tobin's Q and ROA, indicating that changes in ESG scores do not directly impact market value or profitability—supporting findings from (Qu & Zhang, 2023), (Sachin & Rajesh, 2022), and (Shobhwani & Lodha, 2024), which highlights the need for companies to integrate ESG more effectively into core strategies to generate meaningful financial outcomes.

DISCUSSION

The results of this study reveal that debt financing does not significantly influence firm value (Tobin's Q) but has a negative effect on financial performance as measured by ROA. This suggests that higher levels of debt reduce the efficiency of asset utilization in generating profits. The finding is consistent with Jones & Onatuyeh Aruobogha, (2020), Nazir et al., (2021), and Danevska et al., (2023). Who emphasize that excessive debt increases financial risk, raises interest burdens, and may constrain managerial flexibility, ultimately eroding operational efficiency. From a theoretical perspective, this result aligns with the trade-off theory, which posits that while debt can provide tax advantages, the associated costs of financial distress may outweigh its benefits when leverage becomes excessive.

Product Market Competition is also found to have no significant effect on firm value or financial performance. This outcome indicates that competition in itself is not a strong determinant of market valuation or profitability. This supports the findings of Xuan & Thi TRAN, (2021), Babar & Habib, (2020), and Sabuj Hossain et al., (2022). Some argue that internal strategic capabilities and macroeconomic conditions moderate the influence of market competition on firm outcomes. Firms operating in competitive markets must therefore complement their market positioning with innovation, differentiation strategies, and operational efficiency to sustain performance.

Furthermore, ESG scores show no significant impact on either Tobin's Q or ROA. This finding suggests that, within the ASEAN-5 context, the adoption of ESG practices may enhance corporate image and legitimacy but does not directly translate into higher market value or improved profitability. This aligns with studies that indicate ESG's financial benefits often materialize in the long term and are contingent upon effective integration into corporate strategy. ΔESG, representing changes in ESG performance, also does not significantly influence firm value or financial performance. This reinforces the findings of Qu & Zhang, (2023), Sachin & Rajesh, (2022), and Shobhwani & Lodha, (2024), which highlights that incremental improvements in ESG scores may not yield immediate financial returns unless they are deeply embedded within operational and strategic frameworks.

Collectively, these results indicate that financial structure, competitive environment, and ESG practices must be understood in an integrated manner rather than in isolation. From a managerial standpoint, the findings underscore the importance of prudent debt management, strategic responses to market competition, and the alignment of ESG initiatives with core business objectives to achieve sustainable performance. From a policy perspective, regulators in the ASEAN-5 region could focus on creating incentives for effective ESG integration and on promoting corporate governance practices that enhance strategic resilience.

CONCLUSION, LIMITATIONS, AND IMPLICATIONS

Conclusion

This study investigated the influence of debt financing, product market competition, ESG scores, and changes in ESG scores (ΔESG) on the financial performance of non-financial sector companies in the ASEAN-5 region – comprising Indonesia, Malaysia, Singapore, the Philippines, and Thailand – over the 2019–2023 period, using a total of 720 firm-year observations. The results reveal that debt financing does not significantly affect firm value (Tobin's Q), but exerts a negative influence on operational profitability (ROA), underscoring the potential adverse impact of excessive leverage on firms' ability to generate returns. Product market competition shows no significant relationship with either Tobin's Q or ROA, suggesting that competitive market conditions alone may not directly determine market valuation or profitability. Likewise, ESG scores and changes in ESG scores (ΔESG) have no significant effect on both Tobin's Q and ROA, indicating that while ESG-related practices may contribute to corporate reputation, they do not necessarily translate into improved market value or profitability in the short term.

These findings offer practical implications for corporate managers and policymakers in the ASEAN-5 region: prudent debt management is essential to sustain profitability, market competition should be addressed through strategic internal initiatives rather than relying on external market dynamics, and ESG strategies must be integrated more effectively into core business operations to generate tangible financial benefits. Future research could expand the scope by incorporating sector-specific analyses or examining the long-term lag effects of ESG practices on firm performance.

Implications for future research

The implications of this study can be addressed to several stakeholders. First, for prospective investors, the findings suggest that investment decisions should consider a firm's financing strategy, market competition intensity, as well as ESG scores and their changes (ΔESG). These factors are crucial in evaluating risk, stability, and the potential for long-term returns. Second, for companies, the results highlight the importance of optimizing debt management, fostering innovation in responding to market competition, and implementing as well as monitoring ESG and its changes (ΔESG) as part of a comprehensive corporate strategy. Such an approach is expected to support sustainable growth, enhance competitiveness, and strengthen investor confidence.

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