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The impact of corporate governance and capital structure on firm performance and firm value: Evidence from Shariah-compliant firms

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Abstract. Corporate governance is an important factor in generating firm financial performance especially in the Covid-19 Pandemic. During the pandemic, the government announced to do social distance that effect on firm operation which could not run maximal comparing to normal conditions. Good corporate governance practice may help to prevent deterioration financial ratio due to decreasing firm financial performance. Moreover, external funding becomes important to back up back up firm operations because firm tend to suffering loss during the pandemic. The aims of this study are to analyse the impact of corporate governance practice and capital structure on firm performance, as well as firm value. This study applies Shariah-compliant firms (SCF) that listed on Indonesia stock exchange from 2015 – 2020. This study analyses using structural equation modelling - partial least square (SEM-PLS). The results show that corporate governance have a significant positively on firm financial performance, but capital structure shows the adverse effect on firm financial performance. In terms of firm value, both corporate governance and firm financial performance have a positively associated to firm value. Moreover, firm financial performance has negatively impact on firm value. Finally, the findings may help stakeholders to create effective corporate governance practice in driving both firm performance and firm performance, as well as maintain the balance between debt and equity to optimize capital structure that may impact on the firm financial performance and firm value.

Keywords. Corporate Governance, Capital Structure, Profitability, Market Value, Economic Growth

1. Introduction

The Covid-19 pandemic has underscored the critical importance of financial decisions, as most sectors of the economy have faced declining performance due to reduced purchasing power, which has decreased firm sales as well as profitability. To address these challenges, firm may utilize internal funding sources, such as retained earnings, or external financing from debt. However, firm have to carefully consider debt financing due to the associated cost of capital

that can significantly influence firm financial performance and firm value. According to Modigliani-Miller (MM) Proposition 1, under perfect market assumption, capital structure is irrelevant to firm value, implying that the mix of debt and equity financing has no impact on overall firm worth [1]. However, other theories, such as the pecking order theory, suggest prioritizing internal funding to avoid asymmetric information cost and bankruptcy risk from excessive debt, while the trade-off theory suggests optimizing debt levels to balance tax shield benefits against financial distress costs, thereby increasing firm value.

Given the financial challenge posed by the Covid-19 pandemic, firms require effective corporate governance to guide financial decision-making and mitigate risks [2–5]. Corporate governance that consists of both internal and external mechanism that aims to align the interest of management and shareholders. The implementation of corporate also increases the protection to shareholders by minimizing the possibility of moral hazard that decreases firm value. Agency conflicts between principals and agents regarding of financial decisions, which have the potential to reduce profitability and firm value. Therefore, the implementation of corporate governance may reduce leverage arising from agency cost and to resolve disputes between principal and agents. Previous studies have revealed that corporate governance mechanisms—including board size, the presence of independent commissaries and the separation of CEO and chairman roles—exert a significant impact on both firm performance and firm value [5–8] . Moreover, the structure of both the board of commissaries and the board of directors plays a crucial role in managing firm operations and financial decision-making, especially during the pandemic.

Firm financial performance is considered a reflection of long-term sustainability and a key factor in achieving other company targets, such as firm expansion [9]. During the Covid-19 pandemic, strong financial health determined a firm’s ability to withstand economic shocks, adapt to disruptions, and sustain the operations. Previous studies have often used profitability proxies such as return on equity (ROE) and return on assets (ROA) to measure firm financial performance [3,4,10].

While prior studies have investigated the determinants of both firm performance and firm value, empirical findings remain inconsistent, likely due to variations in industry sectors and national context that influence firm performance and firm value. Furthermore, existing research on the drivers of firm performance and firm value has predominantly explored conventional firms, with relatively little focus on the Shariah-compliant firms. This study assesses how corporate governance and capital structure influence both financial performance and firm value in companies adhering to Shariah principles.

2. Method

3.1 Data

This study utilized secondary data, comprising financial ratios and corporate governance data from the annual report of firms that were obtained from official website of the firms. The population of this study is non-financial firms that listed at the Indonesia Shariah Stock Indexed (ISSI) for the period 2015 – 2020. The study employed a purposive sampling method based on two specific criteria: maintaining an ISSI listing throughout 2015 – 2020 and being audited by a public accountant. Due to data constraints, the sample consist of 36 firms that have adequate corporate governance data. Table 1 shows that the majority sample was from basic materials, consumer non-cyclicals and consumer cyclicals.



Table 1. The number of samples across various Industries

<i>Type of Firms</i>	<i>Total</i>	<i>Percentage (%)</i>
<i>Basic materials</i>	8	20.51
<i>Consumer cyclicals</i>	7	17.95
<i>Consumer non-cyclicals</i>	8	20.51
<i>Energy</i>	4	10.26
<i>Industrials</i>	4	10.26
<i>Infrastructures</i>	1	2.56
<i>Property and Real Estate</i>	7	17.95
	39	100.00

3.2 Variables

The exogenous variable of this study is capital structure and corporate governance. This study measures capital structure using the accounting proxies of long-term debt (LTD) and total debt to total assets (TDTA). Moreover, corporate governance is proxied using board size (BSZ), commissary size (CSZ), independent commissaries (IDC), audit board (ASZ) and board meetings (MET). While the endogenous variable is firm performance and firm value. Firm performance is assessed using profitability such as return on assets (ROA), earnings per share (EPS) and net profit margin (NPM). Then, firm value is proxied using both accounting and market value, such as stock price (PRC), Tobin's Q (TQ) and price-earnings ratio (PER).

Table 2. Definition of variables

Constructs	Indicator	Description
Firm financial performance (PRF)	Return on assets (ROA)	Earnings before interest and tax (EBIT) divided to total assets
	Earnings per share (EPS)	Net income divided by outstanding common shares
	Net profit margin (NPM)	Ratio of net income to total assets
Firm value (FV)	Stock price (PRC)	Closing price
	Tobin's Q (TQ)	The total market value of equity and book value of equity divided by book value of assets
	Price Earnings ratio (PER)	Ratio of a firm's market value to earnings per share
Capital Structure (CS)	Long-term debt (LTD)	Ratio of long-term debt to total assets
	Total debt-total assets (TDTA)	Ratio of total debt to total assets
	Board size (BSZ)	Natural logarithm of the number of board directors
	Commissaries Size (CSZ)	The number of commissaries

Constructs	Indicator	Description
Corporate governance (GOV)	Independent commissaries (IDC)	The number of independent commissaries
	Audit board (ASZ)	Natural logarithm of the number of audit board
	Board meeting (MET)	Natural logarithm of annual meeting held by board directors
Firm age and size (FAS)	Firm age (AGE)	Natural logarithm of firm age
	Firm size (FSZ)	Natural logarithm of sales

3.3 Data analysis

This study employed partial least square structured equation modelling (PLS-SEM) using WarpPLS 7.0 to examine the influence of capital structure and corporate governance on firm performance and firm value. The measurement model assessment for formative constructs was conducted by evaluating indicator collinearity, as well as statistical significance and relevance of indicator weights [11]. Variance inflation factor (VIF) is used to assess whether indicators have collinearity. The value of VIF for the formative indicator is less than 3.3, whereas 5 remain acceptable [12]. Moreover, the rule of thumb for assessing collinearity in SEM suggests that the full collinearity VIF for constructs should ideally be below 3.3; however, a VIF value below 5 is still considered acceptable, which confirms the absence of significant multicollinearity.

3. Results and discussion

The descriptive statistics of the study variables are exhibited in Table 3. Financial distress events in 2015, 2018, and 2020 that were triggered by rising oil prices, the global financial crisis, and the Covid-19 pandemic, respectively, significantly impacted the firm's financial performance, as these shocks led to widespread losses across industries that were reflected by negative trends in financial ratios such as ROA, NPM, EPS, and PER. Several previous studies ([13–15]) mentioned that the Covid-19 pandemic has negatively impacted profitability, as well as financial distress, which also decreases profitability.

Table 3. Descriptive statistics

<i>Indicator</i>	<i>Min</i>	<i>Max</i>	<i>Mean</i>	<i>Std. Dev</i>
CSZ	0.693	2.398	1.468	0.396
BSZ	0.693	2.485	1.607	0.347
IDC	1.000	5.000	0.347	0.713
AUZ	0.693	1.792	1.113	0.131
MET	0.693	4.220	2.727	0.619
AGE	1.792	3.401	2.868	0.408
FSZ	11.067	13.487	12.555	0.663
LTD	0.015	0.328	0.118	0.098
TDTA	0.141	0.665	0.396	0.145
ROA	-0.026	0.228	0.072	0.061
NPM	-0.059	0.292	0.072	0.081
EPS	-41.167	965.805	123.598	186.029

TQ	0.557	3.962	1.302	0.830
PRC	104.000	14,808.750	2,293.908	3,330.287
PER	-16.659	103.573	19.507	27.022

Table 4 shows the measurement model, both the construct and indicator that consist of outer weights, p-value, variance inflation factor (VIF) and full collinearity VIF. The results reveal that the p-value of indicators are all significant (less than 0.05), indicating that the model meets the requirements for a formative measurement. Moreover, the VIF values ranged between 0.000 and 3.229, all of which fell substantially below the critical threshold of 3.3. Furthermore, the full collinearity VIF values were also below the threshold of 3.3, indicating the absence of multicollinearity in the model.

Table 4. Measurement model evaluation result

<i>Constructs</i>	<i>Indicator</i>	<i>Outer weights</i>	<i>P-value</i>	<i>VIF</i>	<i>Full Collinearity VIF</i>
Corporate governance (GOV)	CSZ	0.384	<0.001	3.229	1.486
	BSZ	0.329	<0.001	1.671	
	ASZ	0.147	0.011	1.055	
	IDC	0.366	<0.001	2.703	
	MET	0.109	0.045	1.089	
Firm age and size (FZ)	AGE	0.686	<0.001	1.004	1.383
	FSZ	0.686	<0.001	1.004	
Capital structure (CS)	LTD	0.572	<0.001	1.392	1.266
	TDTA	0.572	<0.001	1.392	
Firm financial performance (PRF)	ROA	0.461	<0.001	1.354	1.265
	NPM	0.455	<0.001	1.336	
	EPS	0.391	<0.001	1.160	
Firm value (FV)	TQ	0.550	<0.001	1.272	1.482
	PRC	0.520	<0.001	1.238	
	PER	0.296	<0.001	1.037	
GOV*LEV	GOVLEV	1.000	<0.001	0.000	1.076
GOV*PRF	GOVPRF	1.000	<0.001	0.000	1.136

The path model results that were evaluated using PLS-SEM are presented in Table 5. The analysis examined the relationship between latent constructs, including corporate governance, capital structure, firm performance and firm value, while accounting for firm age and size as control variables. The model demonstrated adequate explanatory power with an R-square of 11.5% for firm performance, indicating that the endogenous construct was sufficiently explained by predictor variables.

According to Table 5, the coefficient of corporate governance was 0.242 with a p-value < 0.001, indicating that corporate governance had a significant positive relationship with firm financial performance. The result supported the agency theory that posits corporate governance mechanism mitigate conflicts of interest between managers and stakeholders that may impact profitability. Moreover, the positive association between corporate governance and firm performance aligns with some previous studies [7,16–18] that revealed some government

mechanisms, such as board size, frequency of board meetings, and audit committees, have increased firm performance. Table 5 also reveals that capital structure has a negative and statistically significant impact on firm financial performance ($\gamma=-0.155$, $p<0.008$). This finding indicates that firms relying more heavily on debt financing tend to exhibit lower financial performance, which supports some previous studies [19–21]. This results in line with pecking order theory, which posits higher debt financing may lead to financial distress and decrease profitability. Moreover, according the pecking order theory, firm suggest to apply internal funding to avoid costly external funding and asymmetric information. The finding also aligns with Shariah principles, which emphasize ethical and risk-averse financial practice, suggesting that restrictions on interest-based debt maintain financial stability. Moreover, Shariah principles also suggest that firms have to avoid relying on interest-based debt to finance their operations, as this may increase bankruptcy risks. Furthermore, control variables showed a negative but statistically insignificant relationship with firm performance at the 10% significance level ($\gamma=-0.093$, $p<0.075$). This result suggested that older dan bigger firms have an adverse impact on firm performance. The finding is in line with some previous studies [22] that found firm maturity and scale do not always generate higher performance, particularly in the covid-19 pandemic where the firm faces operation inefficiency.

Table 5. Determinants of firm performance and firm value: SEM Analysis

<i>Variables</i>	<i>Firm Performance</i>			<i>Firm Value</i>		
	<i>Coefficient</i>	<i>Std. Error</i>	<i>p-value</i>	<i>Coefficient</i>	<i>Std. Error</i>	<i>p-value</i>
Exogenous Variables:						
Corporate governance	0.242***	0.063	<0.001	0.159***	0.064	0.006
Firm age and size	-0.093*	0.064	0.075	0.295***	0.062	<0.001
Capital structure	-0.155**	0.064	0.008	-0.211**	0.063	<0.001
Firm performance				0.429***	0.061	<0.001
GOV*LEV	0.149***	0.064	0.010	0.107*	0.075	0.080
GOV*FP				-0.008	0.065	0.453
<i>R-square</i>			0.115			0.421
<i>Adjusted R-square</i>			0.100			0409

According to Table 5, the major findings from SEM analysis indicated that corporate governance, firm age and size, capital structure and firm performance are important factors in determining the value of the SCFs. These constructs explained 42.1% of the variance in firm value. This study found that corporate governance had a positive and statistically significant impact on firm value, confirming the hypothesis that well-structured governance mechanisms enhance both book value and market value. This finding aligns with agency theory, where the effective governance practices reduce asymmetry of information that aligns the interests of both manager and shareholder that may enhance firm value. In line with previous studies [5,8] that

found some corporate governance practices such as optimal board size and high board meeting attendance play an important role in enabling firms to make prudent financial decisions during Covid-19 pandemics, where many industries experienced abnormal returns as well as sharp inflations in stock prices [23]. Moreover, the commissaries also played an important role in promoting adoption strategies through effective communication and implementing the policy to face the pandemic. The SEM analysis found that the coefficient of capital structure on firm value was -0.211 with a p-value <0.001, which indicates a statistically significant negative relationship between capital structure and firm value. High levels of debt can signal financial risk to investors and may lead to a higher cost of capital that reduces market value. Moreover, the finding implies that the benefits of debt, for instance tax shields, may have been outweighed during the covid-19 pandemic, when the firms could not operate normally. In addition, the SCFs in operation where emphasize risk-sharing principles and restrict interest-based debt, which is detrimental to the value of firms. In line with previous studies [24,25], the diversification of debt has an adverse impact on the firm value of non-financial firms.

The firm performance showed a positive and significant impact on firm value ($\gamma=0.429$, $p<0.001$), indicating that higher firm which higher-performing may enhance investor confidence that may increase market valuation. The firms with higher financial performance give positive signals to investors relating to future earning potential that reduce information asymmetry as well as enhance market valuation. Most of the previous studies [19,26,27] found the positive relationship between firm financial performance – proxied by profitability and firm value.

4. Conclusion

This study empirically examined the effects of capital structure and corporate governance mechanisms on both firm performance and firm value within the unique context of Shariah-compliant firms in Indonesia. This research focuses on 39 non-financial companies that maintained continuous listing on the Indonesia Sharia Stock Index (ISSI) between 2015 and 2020, providing a six-year longitudinal perspective. This study contributes to both firm financial performance and firm value by involving the role of corporate governance practice and capital structure and provides some insight as follows. First, the results of the empirical models support a positive relationship between corporate governance and firm financial performance, as well as between corporate governance and firm value. The findings highlight the importance of corporate governance mechanisms such as board and commissary size, independent commissaries, audit boards and meeting frequency that may improve decision-making and enhance transparency. These mechanisms help to align corporate strategies with stakeholder's interest, which contributes to improve firm performance and firm value. Therefore, this study encourages enhancing corporate governance practices that may involve board independence, audit quality and shareholder rights that align with Shariah principles as well as investor expectations.

Secondly, this study found capital structure negatively influences both firm financial performance and firm value, indicating that higher levels of debt may be detrimental to both firm performance and firm value due to increased financial risk, the cost of debt and adverse signals to investors. The result aligns with Shariah principles, which emphasize that the proportion of assets should exceed debt to mitigate bankruptcy risk.

This study has several theoretical contributions. First, this study provides empirical proof that adoption of corporate governance mechanisms enhances both firm performance and firm value, which aligns with agency theory, where effective corporate governance reduces

agency conflict. However, this study extends the theory by applying Shariah-compliant firms that have a unique context where the firm operates under ethical and religious constraints that may influence governance structure compared to non-Shariah-compliant firms. This study contributes to the literature by highlighting that the Shariah-compliant firms have to adhere to Islamic principles, such as restricting excessive debt-based interest, which may provide new insight relating to capital structure decisions, which are very important in achieving both firm performance and firm value.

This study has several limitations that could be addressed in future research. First, the present study is limited to 39 SCFs from 2015 to 2020, covering only the period after joining the AEC until the beginning of the Covid-19 pandemic. During this timeframe, some factors such as rising oil prices, financial crises and the Covid-19 pandemic, may influence both firm performance and firm value that have not been accounted for in this study. Therefore, generalizing the results to broader conditions is challenging. Future studies could overcome this limitation by expanding both the sample size and the time frame to investigate the impact of corporate governance practices and capital structure on firm performance and firm value pre- and post-Covid-19 pandemic. Second, this study restricted to 39 SCFs that remained listed in the ISSI between 2015 and 2020. The small sample size limits the generalizability of the findings that may not fully represent the broader population of the SCFs. Future study could expand the sample criteria to improve data accessibility as well as strengthen the robustness.

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