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## ARTÍCULO

# Agency Cost, Dividend Policy, Capital Structure, Size, and Company's Future Growth: Evidence from Top 20 Shariah-Compliant Companies at Bursa Malaysia

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**Abstract:** This study is motivated by the desire to investigate the behavior of the top twenty Shariah-compliant companies listed on Bursa Malaysia, focusing on how their agency costs, dividend policy, capital structure, and size may impact their future growth. Within the agency theory framework, bird-in-hand theory on dividends, and some well-known capital structure theories, this paper utilizes the Generalized Method of Moments (GMM) estimation technique and extracts annual data from 2014 to 2020. Only two of the four explanatory variables are significant in explaining the outcome variable of interest, according to the empirical results of the generalized method of moments (GMM). It comes out that dividend per share (DPS) and capital structure (proxied by D/E) impact the future growth of a company (proxied by P/E). Thus, the dividend and capital structure theories appear pertinent for explaining the company's anticipated future growth variations. Even though DPS and CS are control variables, it is essential to include them in our empirical model to improve our study's internal validity. Since its p-value is greater than 0.05, the asset turnover (ATO) as a proxy for agency costs appears insignificant in influencing the P/E ratio of a company. In summary, the empirical evidence presented in this study demonstrates conclusively the significance of dividend policy and capital structure theories in determining the future growth of top-performing companies.

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## Introduction

Modern business administration necessitates a contractual relationship between the principal and the agent. Thus, the separation of ownership and management of a company may result in potential conflicts and impose costs on the proprietors. A shareholder-management conflict of interest poses an increasing threat to the company's future development and performance. This study examines the theoretical relationship between agency cost and the future development of 20 Shariah-compliant companies listed on the Bursa Malaysia between 2014 and 2020 to determine this issue's significance. Asset turnover ratio (ATO) is used as a proxy for agency cost, whereas dividend per share (DPS), debt-equity ratio (D/E), and sales (SIZE) serve as control variables.

The agency theory explains the potential for conflict between principals and agents when their interests diverge. In the managerial finance literature, the issue of aligning the interests of shareholders and managers in a manner that satisfies both parties has become an important topic of debate. Several studies have examined this agency conflict, and some strategies for resolving agency problems have been developed. [Ross \(1973\)](#) and [Jensen and Meckling \(1976\)](#) conducted the most influential investigations on agency theory. They define the principal-agent relationship as a set of legal contracts between the principal (owner) and the agent (manager). [Jensen and Meckling \(1976\)](#) explain further that any company managed exclusively by managers is susceptible to agency conflict because these managers are prone to place their personal goals ahead of corporate objectives. Consequently, managers will incur unnecessary expenses rather than maximize the company's value. This circumstance will result in agency costs such as welfare losses, monitoring fees, and financing expenses, reducing the company's long-term growth potential.

The circumstance mentioned above poses a formidable obstacle for all publicly traded companies in Malaysia, specifically in sustaining their income growth while maintaining their market share. The operating costs are anticipated to increase annually, whereas the market share for products and services is declining due to intensified domestic and international competition. This situation necessitates that shareholders closely monitor their agents to ensure they act in their best interests and protect the company's value. Every company will attempt to avoid agency conflicts to reduce agency expenses. This essay is structured as follows: The first section contains a statement of the problem and a literature review. The section that follows describes the used data and methodology. The conclusion and empirical findings are presented in the concluding paragraph.

## Problem Statement

All publicly traded companies are concerned with future growth and value, and these two elements must be protected at all costs. Therefore, development is the primary concern of both shareholders and other company stakeholders. According to some research, the P/E ratio may more accurately predict a company's growth performance than its share price. In empirical corporate finance, it is widely acknowledged that

dividend policy significantly impacts a company's value and long-term development. Numerous well-known dividend theories, such as Gordon's model and Walter's method, provide a straightforward explanation for this perception. The company's market share is a reliable indicator of growth that is frequently employed. This market share explains the company's scale and influence within its industry. The significance of capital structure in determining future development cannot be understated. Numerous capital structure theories emphasize leverage's significance in sustaining long-term growth. It is argued that the managerial efficacy of the company should drive future earnings and sustainable development.

There is no doubt that dividend policy, tangibility, and capital structure are credible contributory factors, but there is a need to examine the extent to which these internal company factors contribute to the company's development in the future. We must comprehend the role that corporate governance and the principal-agent relationship could play in sustaining future growth. This study focuses solely on Shariah-compliant companies, as opposed to the plethora of studies that have analyzed various types of companies across industries. Consequently, this paper aims to investigate the theoretical relationship between managerial effectiveness and future company development over the observed period.

## Literature Review

Numerous past studies have addressed the issue of risk sharing and internal conflict, particularly as it relates to enormous corporations. [Ross \(1973\)](#) offers a novel perspective on the sharing problem by explaining how an agency relationship between two or more parties can develop. His discussion focuses on employer-employee contractual agreements and how these two parties should cooperate for the company's benefit.

Following [Ross's \(1973\)](#) work, [Jensen and Meckling \(1976\)](#) expand the scope of the agency theory applications study. They develop an explicit model that captures the agency relationships within the organization. [Jensen \(1983\)](#) illustrates a real-world situation in which the principal and agent have distinct interests and asymmetric knowledge. In most instances, the agent has more information than the principal. The principal-agent problem causes the principal to be uncertain as to whether the agent is always operating in their best interest. There are business activities that are advantageous for the principal but costly for the agent, and vice versa.

This study also investigates how agency costs are measured, as previous research has demonstrated the use of various proxies. [Ang, Cole, and Lin \(2000\)](#) conducted one of the earliest studies, and their work provides valuable insights into how financial ratios are used as surrogates for agency costs. They employ the expense and asset utilization ratios as indicators of management expenditure, and the two serve as surrogates for agency expenses. Using return on asset (ROA) and return on equity (ROE) measures, [Wang \(2010\)](#) examines the relationship between firm performance and agency cost. Taiwan Stock Exchange is the source of his dataset on publicly traded firms. Like [Wang \(2010\)](#) and [Çopuroğlu and Korkmaz \(2018\)](#) investigate the relationship between agency cost and firm performance utilizing ROA and ROE as dependent variables. Two

distinct tangibility measures are used to estimate agency costs: the tangible asset ratio and the liquidity ratio. [Chinelo and Iyegbuniwe \(2018\)](#) examine the impact of asset efficiency on agency cost estimation. In particular, they use the asset turnover ratio (ATO) and the earnings before interest, taxes, and depreciation (EBITD) to the ratio of the total assets to determine the magnitude of agency costs.

Regarding the principal-agency problem or agency conflict, [Akyol \(2007\)](#) adopts a somewhat different stance. He investigates the effect of agency cost and leverage on dividend yield using data from publicly traded corporations from 1997 to 2002. His empirical model specifies five independent variables: ownership structure, growth rate, leverage, firm size, and free cash flow. According to his findings, agency fees do not affect dividend yield.

Dividends are a recompense or form of return that shareholders anticipate in addition to capital gains from share price fluctuations. Diverse theories in the literature have investigated dividend-related investor behavior. A financial manager's primary responsibility is to devise a dividend policy to maximize the company's value. In addition to agency theory, other relevant ideas include the Modigliani and Miller Theory (M&M), the Bird-in-Hand Theory, and the Trade-off Theory.

According to [Miller and Modigliani \(1961\)](#), the decision regarding profit distribution has no influence on a company's share price or market value. Instead, the future value of the share price is determined by expected profits and calculated risks. Therefore, the company's market capitalization is only influenced by the company's earnings and not by its dividend policy. Miller and Modigliani assert that investors are typically indifferent between dividends and capital gains as they believe share prices will reflect the company's fundamentals. They explain that capital gain is determined by the increase in the market price of shares before declaring dividends. If a company achieves profits and decides to distribute a portion of it as dividends, the market value of its shares will decrease by the amount of the dividends distribution, while the market value of the company's shares will increase by the amount of the retained earnings. The validity of Miller and Modigliani's theory is frequently contested with varied results.

The Bird-in-Hand theory is credited to [Lintner \(1956\)](#) and [Gordon \(1959\)](#) for their contributions. They assert that dividends are the actual source of a company's value, whereas [Miller and Modigliani \(1961\)](#) contend that there is no correlation between profit distribution policy and a company's share price. According to the Bird-in-Hand theory, a firm's dividend policy directly impacts its market value through its influence on the market share price. This is due to the greater uncertainty associated with capital gains than the relative assurance related to dividends and income gains. As a result, investors are believed to prefer dividends over capital gains as a form of profit distribution.

In behavioral finance, investor sentiment is contentious, particularly in emergent financial markets ([Hafeez, Shahbaz, Iftikhar, & Butt, 2018](#)). [Enekwe, Nweze, and Agu \(2015\)](#) empirically test the impact of dividend payouts on the performance of cement companies in Nigeria using three strong performance indicators, namely return on assets, return on capital employed, and return on equity, as part of their examination of the effect of dividend policy

on firm performance in developing nations. In this investigation, the dividend payout ratio is the only independent variable. The results indicate that the dividend payout ratio has a strong relationship with each of the tested dependent variables. [Chelimo and Kiprop \(2017\)](#) examine the influence of dividend policy on the share prices of Kenyan-based insurance companies. Their study employs dynamic regression analysis to determine the relationship between dividend policy and share prices, and the results indicate that dividend distribution, dividend yield, earnings per share, and inflation all have equal weight in determining the future share price. According to previous research by [Nisa and Nishat \(2011\)](#) and [Anandasayanan and Thirunavukkarasu \(2016\)](#), dividend policy significantly affects share price volatility as measured by dividend yield and payout ratio. Recent research by [Ebire, Mukhtar, and Onmonya \(2018\)](#) and [Habumugisha and Mulyungi \(2018\)](#) indicates that the dividend payout ratio influences firm performance positively.

([Kraus & Litzenberger, 1973](#)) The Trade-off theory strongly relates to a company's capital structure and asserts that a company must strike a balance between the costs and benefits of debt. Specifically, a company must evaluate bankruptcy's deadweight costs versus debt financing's tax advantages. In most cases, agency fees are also factored into this balance. This theory is significant because it explains that large corporations are typically financed through debt and equity financing. The theory also highlights the benefits and drawbacks of these financing alternatives.

## Data and Methodology

Following previous research, this study focuses on analyzing the relationship between the selected independent variables and the company's future growth. In this study, the variable of interest is agency cost, which is approximated by asset turnover (ATO). We commence by extracting raw data from Bursa Malaysia's database of individual annual reports. The SAS software analyzes all panel data from 2014 through 2020 involving the twenty most profitable Shariah-compliant companies. The price-to-earnings ratio (P/E) is the outcome variable that represents the company's future growth. In addition to ATO, this study examines three other independent variables: the company's debt-equity ratio (D/E), dividend per share (DPS), and net sales (SIZE). The empirical expression of the functional form of our model is as follows:

$$P/E = f(ATO, DPS, DE, SIZE, \epsilon)$$

Importantly, represents the variation in P/E that the four independent variables cannot explain. The DPS and DE are designated as control variables because they are irrelevant to the current investigation. However, these two variables remain a part of our empirical model because they may affect our estimation results. The Generalized Method of Moments (GMM) is used in the estimation method, and the rationale for its application is explained in the following paragraph.

Table 1 displays the top twenty Shariah-compliant companies selected from the primary market of Bursa Malaysia. It is fascinating to note that six out of twenty businesses (approximately 30 percent) are in the consumer products and services industry. The majority of the sectors listed below are associated with recession-resistant

enterprises.

Table 1: The Top 20 Shariah-compliant Companies

No.	Company	Sector in Bursa Malaysia
1.	TNB	Utilities
2.	PETRONAS CHEMICAL	Energy
3.	PETRONAS GAS	Energy
4.	IHH HEALTHCARE	Health Care
5.	HARTALEGA	Health Care
6.	TOP GLOVE	Health Care
7.	PRESS METAL	Industrial Products & Services
8.	GAMUDA	Construction
9.	TELEKOM	Telecommunications and Media
10.	MAXIS	Telecommunications and Media
11.	DIGI	Telecommunications and Media
12.	NESTLE	Consumer Products & Services
13.	PPB	Consumer Products & Services
14.	PETRONAS DAGANGAN	Consumer Products & Services
15.	SIME DARBY BERHAD	Consumer Products & Services
16.	QL RESOURCES BERHAD	Consumer Products & Services
17.	F & N	Consumer Products & Services
18.	IOI	Plantation
19.	KLK BERHAD	Plantation
20.	BATU KAWAN BERHAD	Plantation

GMM is a method of estimation that permits efficient econometric estimators for panel data structures. This methodology specifically reduces and simplifies the endogeneity problem. When there is a correlation between parameters or independent variables and the model's error term, endogeneity is a statistical problem. GMM addresses the issue of endogeneity by accounting for unobservable disruptions in the cross-sectional components of the data set. To verify the validity of our GMM estimators, we employ the Sargan test for the exogeneity of instruments (to assure the accuracy of estimates). Exogeneity issues could result from the following three scenarios: First, it occurs when variables omitted from the model are correlated with independent variables. Second, this issue could also arise if the independent variables are affected by measurement errors.

The problem arises when the independent variable contains elements of the dependent variable. When the independent variable is also the dependent variable, the situation may become worse. This misspecification issue is also known as the simultaneity issue. GMM replaces the afflicted independent variable with a new instrument denoted  $z$  to solve the simultaneity problem. This  $z$  correlates with the impacted independent variable but is unaffected by the model's dependent variable. In GMM, this  $z$  variable is referred to as an instrument. The GMM methodology, which led to the development of efficient and unbiased econometric estimators for our tested model, now makes it abundantly evident that all potential issues in financial modeling are effectively addressed.

Figure 1 illustrates in detail the GMM methodological flow. The panel data augment the amount of observations. This data set increases efficiency by compressing the multicollinearity crisis and expanding the degree of freedom between independent variables or explanatory variables. The performance of businesses varies according to their sectors and capacities. Cross-sectional data alone cannot adequately resolve this issue. Therefore, panel data methodology has the advantage of determining firm-specific effects that were not observed. In addition,

variables and instruments are selected during a simpler and more flexible phase than when using cross-sectional data alone.

The GMM procedure consists of the stages listed below. It begins with diagnostic tests and is followed by a specific GMM technique that reduces deformation caused by fixed effects, simultaneity, and endogeneity. This study connects GMM to our data structure, incorporating cross-sectional and time-series measurements.

The linear GMM equation can be expressed mathematically as follows:

$$y_t = z_t \delta_0 + \varepsilon_t, \quad t = 1, \dots, n \quad (1)$$

Where  $z_t$  is an  $L \times 1$  vector of explanatory variables,  $\delta_0$  represents a vector of unknown coefficients, and  $\varepsilon_t$  defines a random error term. Elements of  $z_t$  in this model may interact with the error term  $\varepsilon_t$ . In the presence of endogenous variables in  $z_t$ , the least squares estimator of  $\delta_0$  is biased and unpredictable. About the model, a  $K \times 1$  vector of instrumental variables  $x_t$  is assumed that many contain elements of  $z_t$ . In allowing  $w_t$  to represent the vector of unique and non-constant elements of  $\{y_t, z_t, x_t\}$ , it is assumed that  $\{w_t\}$  is a stationary and ergodic stochastic process.

The instrumental variables  $x_t$  satisfy the set of  $K$  orthogonality conditions with the following equation:

$$E[g_t(w_t, \delta_0)] = E[x_t \varepsilon_t] = E[x_t (y_t - z_t \delta_0)] = 0 \quad (2)$$

where  $g_t(w_t, \delta_0) = x_t \varepsilon_t = x_t (y_t - z_t \delta_0)$ . Expanding (2) gives the relation.

$$\Sigma xy = \Sigma xz \delta_0 \quad (3)$$

where:  $\Sigma xy = E[x_t y_t]$  and  $\Sigma xz = E[x_t z_t]$ . For the identification of  $\delta_0$ , it is required that the  $K \times L$  matrix  $E[x_t z_t] = \Sigma xz$  be of full rank  $L$ . It is noted that if  $K = L$ , then  $\Sigma xz$  is invertible, and  $\delta_0$  may be determined using  $\delta_0 = \Sigma^{-1} xz \Sigma y$

A necessary condition for the identification of  $\delta_0$  is the order condition.

$$K \geq L \quad (4)$$

The above equation expresses that the quantity of instrumental variables must be more noteworthy than or equivalent to the quantity of explanatory variables. If  $K = L$ , then  $\delta_0$  is said to be (apparently) just identified. If  $K > L$ , then  $\delta_0$  is said to be (apparently) over-identified; if  $K < L$ , then  $\delta_0$  is not specified.

To ameliorate the endogeneity problem of both independent and explanatory variables, a two-step GMM method controls the correlation error over time by mitigating the effects of orthogonality conditions on errors and heteroskedasticity between firms. Observed and unobserved firm-specific determinants influence the performance of the company. Based on our stipulated model, these companies and time parameters alter. The following GMM model has been created following our model specification:

$$Y_{it}^* = \alpha_0 + \sum_k \beta_k X_{kit} + \alpha_i + \alpha_t + \alpha_{it} \quad (5)$$

$Y^*$  = the dependent variable (i.e., CP)

Where:

$i = 1, \dots, N$  and  $i \neq j$

$X$  = the independent variables (i.e., DPS and SIZE)

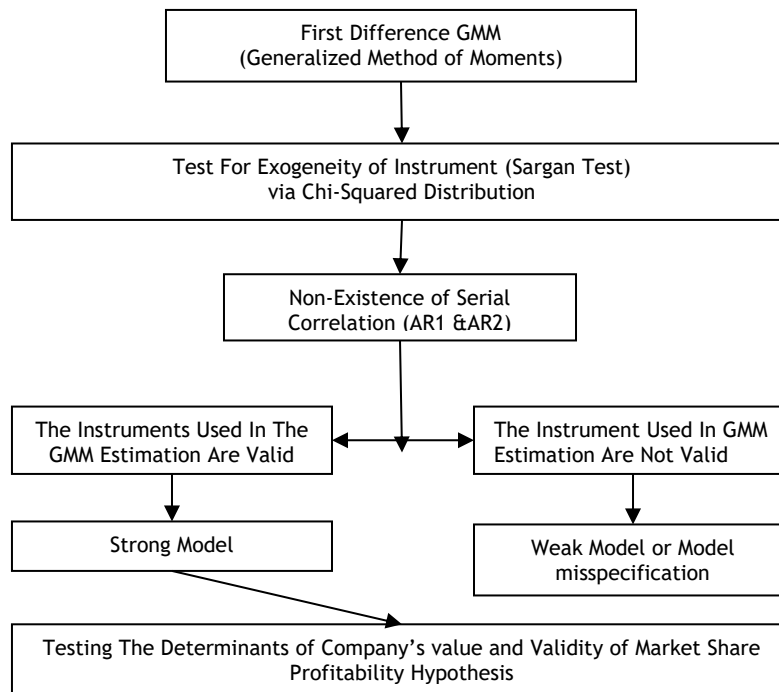


Figure 1: Methodological Flow of Generalized Method of Moments (GMM)

$\alpha_i$  measures firm-specific characteristics, and the result from this estimation varies from time to time and from one firm to another.

$\alpha_i$  is the unobserved firm-specific effect,

$\alpha_t$  captures the time effect.

The diagnostic tests used to evaluate the validity of the GMM panel data model are the test of exogeneity of instruments via Chi-squared distribution (also referred to as the Sargan test) and the difficulty of the non-existence of serial correlation among the error terms (AR1 & AR2).

Serial correlation is frequently observed in time series data but not cross-sectional data. The first and second order serial correlation analysis (autocorrelation test) is performed to prevent serial correlation. The AR1 and AR2 must have significant negative results and no evidence of second-order autocorrelation. Assume that the error is independent of its past; it has no memory of its previous values, as equations 6, 7, and 8 below describe.

Error term has a mean of zero:

$$E(e) = 0 \rightarrow E(y) = b_1 + b_2x \tag{6}$$

Error term has constant variance:

$$\text{Var}(e) = E(e^2) = \sigma^2 \tag{7}$$

The error term is not correlated with itself (no serial correlation):

$$\text{Cov}(e_i, e_j) = E(e_i e_j) = 0 \quad i \neq j \tag{8}$$

The autocorrelation coefficient must lie between -1 and 1:  $-1 < \rho < 1$ ,

Anything outside this range is unstable and unlikely for economic or financial models.

John Denis Sargan proposed the Sargan test in 1958, also known as the Hansen test or J-test. It is used to inspect the exogeneity and consistency of the instruments. It seeks to investigate variables and determine if they are uncorrelated with certain residual sets. If the Sargan test is invalid, the model is deemed inadequate. Under invalid theories, the chi-square is used to assess the general

validity of the instruments and the presence of over-identifying constraints. The levels of flexibility are determined by computing the difference between the number of instruments and the number of regressors.

### Empirical Findings

This section focuses on data analysis, which is made possible by SAS base programming. To derive empirical results from the application of a two-step GMM, an algorithm is developed and coded into the SAS program. Specifically, this study employs the GMM first difference transformation model, and the data structure is described in Table 1 below.

Table 1: Firm's Growth and Determinants (2014-2020)

Dependent Variable: Firm's P/E

Estimation Method	GMM2
Number of Cross Sections	20
Time Series Length	7
Estimate Stage	2
Maximum Number of Time Periods (MAXBAND)	5

Table 2 displays the results of the diagnostic test for Sargan. It is a test of the validity of instrumental variables that these variables are uncorrelated with a subset of residuals and are, therefore, accepted as instruments in our estimated model. Under the null hypothesis, the instrumental variables are assumed to be valid. As displayed in Table 2, it is evident that the p-value exceeds 5%, indicating acceptance of the null hypothesis.

Table 2: Sargan Test

DF	Statistic	Prob > ChiSq
9	13.46	0.1428

The parameter estimates and their respective significance tests are shown in Table 3. The dividend policy (DPS) parameter estimate appears negative, and its relationship with P/E is statistically significant. This finding may indicate that an increase in future company growth will



accompany any decline in DPS. At the 5% significance level, a positive and significant relationship exists between a firm's P/E and its capital structure (D/E). Following the Trade-off Theory of capital structure, any increase in a firm's D/E (leverage) will result in some growth potential in the firm's future value. All other variables held constant. However, the lag-dependent variable appears to be insignificant in the model. As for the remaining explanatory variables, there is no significant relationship between them and the P/E ratio of the firm.

Table 3: Parameter Estimates

Variable	DF	Estimate	Standard Error	t Value	Pr >  t
LCP_1	1	-0.02563	0.0568	-0.45	0.6531
LDPS	1	-0.98641	0.4772	-2.07	0.0414*
LATO	1	0.06346	0.1719	0.37	0.7127
LSIZE	1	-0.28011	0.4409	-0.64	0.5267
LCS	1	1.02378	0.1287	7.96	<0.0001***

\*\*significant at 1% level

\*significant at 5% level

Table 5: Descriptive Statistics

Variable	Label	Mean	Maximum	Minimum	Median	Standard Deviation
CP	Company's PE Multiples	54.2052	357.5400	6.7300	35.7250	60.06
DPS (cent)	Dividend Per Share	45.0217	280.00	1.3330	18.50	75.88
ATO	Asset Turnover	0.7504	2.0878	0.2381	0.5430	0.5168
SIZE (RM)	Net Sales	11,127,694.99	50,939,700.00	1,107,079.00	6,781,717.50	12,461,258.21
CS	Capital Structure (D/E)	2.1316	13.9037	0.1658	1.2841	2.8712

As shown in Table 6, our discovery of a significant negative correlation between CP and SIZE was unexpected. There is also a significant positive correlation between DPS and ATO, with a magnitude of 0.6813 for this positive

Table 6: Pearson Correlation Coefficients (P-value)

Variable	CP	DPS	ATO	SIZE	CS
CP	1	-0.1513 (0.2109)	0.0361 (0.7667)	-0.2538* (0.0340)	-0.1368 (0.2586)
DPS	-0.1513 (0.2109)	1	0.6813** (<0.0001)	-0.0488 (0.6881)	0.0960 (0.4292)
ATO	0.0361 (0.7677)	0.6813** (<0.0001)	1	-0.3801** (0.0012)	0.3117** (0.0086)
SIZE	-0.2538* (0.0340)	-0.0488 (0.6881)	-0.3801** (0.0012)	1	-0.0760 (0.5314)
CS	-0.1368 (0.2586)	0.0960 (0.4292)	0.3117** (0.0086)	-0.0760 (0.5314)	1

\*\*significant at 1% level

\*significant at 5% level

## Conclusion

In a contemporary business environment, the most trustworthy management team protects the company's value. Thus, the agency theory is highly relevant for explaining variations in a company's future development and performance. Suffice it to say that any increase in managerial efficiency will reduce agency expenses, thereby preventing potential agency conflicts. However, our empirical evidence does not support the hypothesis that our proxy for agency cost (ATO) does not influence the future growth of Sharia-compliant companies. Our discovery is consistent with Baykara and Baykara's research from (2021). Empirical Evidence Indicates that both DPS and D/E are significant in determining the company's

The second diagnostic test from the first and second-order serial correlation analysis is presented in Table 4. Considering the high p-value of 0.06 (greater than the alpha (5%)), this statistical result demonstrates the absence of serial autocorrelation, thereby supporting the validity of our estimated model.

Table 4: AR(m) test

Lag	Statistic	Pr > Statistic
1	-1.84	0.0664

The descriptive statistics for each model's variables are provided in Table 5. Several noteworthy findings must be highlighted. The average price-to-earnings ratio of the best twenty companies is approximately 54.20, indicating that they are possibly overvalued companies with significant growth potential. The average D/E ratio among them is quite high at 2.13, with a maximum to the minimum range of 13.90 to 0.1658. Regarding dividend distribution, the average dividend per share is relatively substantial at 45.02 cents. The low ATO indicates that these 20 companies are not exploiting their assets to their utmost potential terms of asset utilization.

association. In panel data analysis, we investigate the changes in the tested variables over time and the differences in the variables between the observed subjects or companies.

future growth. The results of the GMM test indicate that size has no statistical impact on development over the observed period. The study of company growth determinants among selected Shariah-compliant equities has two significant implications. First, the capital structure theory is indisputable, as tangibility is an essential catalyst for future development. Using fixed assets and leverage is geared toward capacity building, which helps sustain long-term growth. Second, dividend policy is always influential on growth, and we must recognize that there is a hypothetical indirect relationship between dividend policy and agency conflict. Therefore, the greater the dividend payout, the happier the shareholders will be and the less agency conflict.

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