

The Modulating Role of Leverage in the Interplay Between Profitability and Stock Returns Within the Context of Indonesia's Islamic Financial Landscape

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Abstract. During the timeframe of 2018–2021, the present research scrutinizes companies listed on the Indonesia Stock Exchange (IDX) with respect to their profitability and stock returns, while incorporating leverage as a moderating variable. The Ordinary Least Square approach is employed to model the relationships between dependent and independent variables, capturing the nuanced interplay among these financial factors. Additionally, this analysis adopts the Fixed Effect Model technique with sectional weight, offering a robust examination of the data. The findings reveal a positive, yet modest, influence of earnings per share (EPS) on stock returns. In contrast, return on equity (ROE) exerts a substantial and positive impact on stock prices. Moreover, the debt-to-equity ratio (DER) demonstrates a positive and statistically significant effect on stock returns. The debt-equity ratio serves as a notable moderator, attenuating the influence of EPS on stock returns as well as the effect of ROE on debt. Collectively, the outcomes of this study underscore the pivotal role that leverage plays in mitigating the impact of profitability on stock returns, providing valuable insights for investors, financial analysts, and industry stakeholders.

Keywords: Profitability · Leverage · Stock Returns

1 Research Background

Investment entails allocating a specific amount of capital to a variety of instruments in anticipation of future returns. Returns represent the outcomes of investment endeavors, or the level of profit realized by investors Hartono [1]. High stock returns indicate increased shareholder wealth and robust company performance, enhance market confidence, and inspire investment [2].

Financial performance is a significant factor in stock price appreciation. Profitability exemplifies the results of thorough funding strategies and operational decisions. The ratio of a company's profit to its owners' investment capital is known as its return on equity (ROE) [3]. ROE is a measure of the profit that ultimately trickles down to the

company's owners [4]. However, different studies have reached conflicting conclusions about how much of an impact return on assets has on stock returns. All found that ROE had a positive and statistically significant effect on stock returns [5–7]. Stock returns were not linked to ROE by Martina et al. [8].

An elevated earnings per share (EPS) serves as an indicator of a flourishing enterprise, as emphasized [9]. The allure of a higher EPS tempts investors to augment their share acquisition within the company [10]. Empirical evidence provided demonstrates the existence of a positive and statistically significant correlation between EPS and stock returns [5, 8, 11]. Nonetheless, the findings of Aisah and Mandala present a contrasting perspective, asserting that a substantial negative impact on stock returns arises from EPS [12].

The debt-to-equity ratio (DER) serves as a pivotal indicator, shedding light on the efficacy of leveraging—an investment approach that entails the utilization of borrowed funds or capital to amplify prospective gains. Fabozzi and Drake elucidate that DER portrays the comparative value of loans in relation to the capital furnished by proprietors or shareholders within a firm [13]. Khan and Naz identify a positive and substantial influence of DER on stock returns [5]. In contrast, the findings of Akbar and Herianingrum, Siregar and Dewi, and Sausan et al. present a converse perspective, revealing a negative relationship between DER and stock returns [14–16].

The current study seeks to reevaluate the impact of profitability on stock returns, tempered by leverage, with a focus on the Indonesia Stock Exchange (IDX), despite the fact that earlier research has yielded mixed results. According to Imamah et al. Indonesia has become a key economic power in the developing market sector, with its capital market ranking third behind China and India [17]. In addition, as of March 2021, there were 93,870 investors in the Islamic capital market, a figure that had increased 19-fold since 2015, according to data from the Ministry of State-Owned Enterprises (SOEs). Thus, studies of capital markets in emerging economies like Indonesia continue to be not only important but also fascinating.

This study contributes both theoretically and practically. Theoretically, it contributes to the growing body of work examining the link between profitability and stock returns, and it does so by introducing leverage as a moderating component impacting the profitability-stock-returns relationship. The research has the ability to aid investors by providing an overview of the performance of companies included in the Jakarta Islamic Index from 2018–2021.

2 Literature Review and Hypotheses

Signaling theory, as delineated by Connelly, concentrates on the conveyance of messages from an originator to a recipient [18]. Initially postulated by Spence (1978) within the realm of labor markets, this theory asserts that the information disseminated by management through financial reports possesses the potential to influence the decisions undertaken by stakeholders [3]. Consequently, when management disseminates affirmative signals, the market typically exhibits a favorable response.

As posited by Titman et al., a firm's profitability serves as a reliable gauge of its ability to generate returns on investments [19]. Through the lens of signaling theory, escalations in return on equity (ROE) and earnings per share (EPS) convey to investors the prospering

nature of a company. Syamsuddin elucidates those earnings per share (EPS) constitutes a vital metric in assessing a corporation's financial well-being [9]. This is particularly relevant for investors, who frequently perceive an association between burgeoning profits and augmented stock returns.

The debt-to-equity ratio (DER) signal, on the other hand, works in the opposite way by suggesting to investors that a company is performing well when the DER is low. A company's worth can increase and its appeal to investors grow when they receive encouraging news. In contrast, investors may be given false impressions of a company's performance if its ROE and EPS are lower than average, but its DER is high. Stock returns are an indicator of how leverage might increase company profits and shareholder returns [19]. Stock returns are the results of an investor's stock investments or the amount of profit they realize [1].

Profitability is a key predictor of a company's future prospects because investors naturally want to make money off of their investments [2]. The ratio of a company's earnings to its shareholders' equity investment is called the return on equity (ROE). Return on equity, or ROE, is a profitability ratio used to evaluate the effectiveness with which an organization translates capital expenditures into a return [20]. There is strong evidence that ROE positively affects stock returns [5–7]. According to signaling theory, when issuers disclose their return on equity (ROE), it sends a positive message to investors and drives up demand for the company's shares, which in turn boosts stock returns.

Earnings Per Share (EPS) serves as a critical financial metric that quantifies the average profit generated per common stockholder. Syamsuddin posits that a high EPS value signifies a thriving enterprise [9]. When earnings per share escalate, investors are incentivized to acquire an increased quantity of a company's shares [10]. A positive and statistically significant impact on stock returns due to Earnings Per Share (EPS) has been corroborated by three distinct investigations [5, 8, 11]. These findings substantiate the signaling hypothesis, which suggests that an augmentation in EPS conveys a propitious signal to investors, thereby enhancing the stock's worth. Robust growth in earnings per share exhibits the corporation's capacity to entice and gratify a diverse array of investors. Such information disseminates a message to prospective investors who may subsequently develop heightened enthusiasm for the organization and its stock, culminating in an elevation in stock prices and superior returns.

According to Fabozzi and Drake, the debt-to-equity ratio (DER) is a ratio that shows how much debt a company has in relation to how much equity it has [13]. Interest payments on capital loans must be prioritized before earnings are delivered to shareholders [9], therefore shareholders are understandably worried about the company's ability to repay the principal loan and interest. Negative and statistically significant effects of DER on stock returns have been shown in studies [14–16]. On the other hand, Khan and Naz discovered the opposite: a positive and statistically significant effect of DER on stock returns [5].

For investors, a high DER is a warning indicator that they should steer clear of the company because of the higher expenses and dangers connected with investing in it [15].

The stock price falls as a result, which has a negative effect on stock returns [10]. These observations allow us to propose the following hypotheses:

- Hypothesis 1: The influence of (ROE) on stock returns exhibits a positive correlation.
- Hypothesis 2: (EPS) demonstrates a positive association with stock returns.
- Hypothesis 3: A positive effect on stock returns is attributable to the (DER).
- Hypothesis 4: (DER) serves as a moderating factor in the interplay between (ROE) and stock returns.
- Hypothesis 5: The relationship between (EPS) and stock returns is moderated by the (DER).
- Hypothesis 7: In unison, (ROE), (EPS), and (DER) contribute to a positive impact on stock returns.

3 Methodology of the Investigation

This study uses data from the Jakarta Islamic Index 70 (JII70) of the Indonesia Stock Exchange (IDX) from 2018 to 2021 to examine the moderating effect of leverage on the relationship between profitability and stock returns. This investigation makes use of a quantitative explanatory research strategy to investigate the existing phenomena and determine the causal linkages between the variables.

For the sake of this study, "stock returns," as defined by Fahmi et al., will serve as the dependent variable [21]. The rate of return on an investment in stock is determined by taking the closing share price at the end of the most recent period and adding any dividends paid during that period, then dividing that total by that price. Earnings per share and return on equity are the key independent variables here. Return on equity is used to assess the potential returns to investors in a company. The financial situation of the company's owners has improved because of the high returns they have received. Divide net profit after taxes by stockholders' equity to get the return on equity. Meanwhile, earnings per share (EPS) measures the value that shareholders can expect to receive for their investment in the company.

According to Sugiyono, moderators are "variables that either strengthen or attenuate the effect of a set of independent variables on a set of dependent variables" [22]. A moderating role is played in this research by the debt-to-equity ratio (DER). The debtequity ratio, as defined by Fabozzi & Drake, represents the proportion of a company's total debt to its total stockholder capital. In this analysis, we calculate the debt-to-equity ratio by dividing the total debt by the total stockholders' equity [13].

Both market capitalization (MC) and price-to-book value (PBV) are included as independent variables in this analysis. Multiplying shareholder equity by the share price yields market capitalization, which stands for the total worth of a company's shares. The price-to-book value (PBV) ratio measures a company's value by contrasting the current share price with its per-share book value.

This study uses the purposive sample technique outlined by Sugiyono to select its participants [22]. Since insurance, banking, and securities firms invest differently than businesses in other industries Imamah, these businesses were purposefully left out of the study [17].

We use a methodical approach to analyze the data and test the theories. As a first step in our univariate analysis, this study does a descriptive analysis. Second, Chow, Hausman, and Multiple Langrage tests are used to estimate regression models as part of the multivariate analysis. Third, the best linear unbiased estimators (BLUE) (Normality, Multicollinearity, Durbin-Watson, Heteroskedasticity) are obtained using the ordinary least squares (OLS) approach. At last, we test the hypotheses to make sure we aren't falling for any fake results.

Panel data regression equation including moderator factors looks like this:

$$Yit = \alpha + \beta_1 X_{1it} + \beta_{\$} X_{\$it} + \beta_3 M_{it} + \beta_{\&} X_{1it} M_{it} + \beta_5 X_{\$it} M_{it} + Controls + \varepsilon_{it}$$
(1)

where:

Yit = Stock returns α = Constant $\beta 1 - \beta n$ = Regression coefficient X1 = ROE X2 = EPS M = DER X*M = Interaction between independent and moderation Controls = Control variables ϵ = Error i = Firm t = Time

4 Results

Table 1 displays the results of a regression using the Fixed Effects Model (FEM) and shows that the regression coefficient for return on equity is 0.4068669. The probability value for this value is 0.0000. A rise in return on equity will have a considerable effect on stock return values, as the two are positively and highly correlated. These statistical results provide credence to the study's null hypothesis. The findings of this study are congruent with the signaling hypothesis and are in agreement [5, 6, 23].

Dependent	Variable:RS			
Var.	Coef.	Std. Error	t-Stat.	Prob
С	-0.359094	0.044399	-8.087803	0.0000
EPS	4.14E-05	5.45E-05	0.760164	0.4478
ROE	0.406869	0.063476	6.409777	0.0000
DER	0.035333	0.013969	2.529449	0.0119
MC	5.92E-15	1.35E-15	4.397060	0.0000
PBV	0.065693	0.010234	6.419022	0.0000
Var.	Coef.	Std. Error	t-Stat.	Prob.

Table 1. Fixed Effect Model (FEM).

The regression coefficient value for Earnings Per Share (EPS) possesses a probability of 0.4478, indicating a positive yet relatively weak correlation between EPS and stock returns. Consequently, an increment in earnings per share corresponds to a modest enhancement in stock return values. This outcome reveals that the second hypothesis of the present investigation is not substantiated by the empirical data. The observation that EPS exerts a marginal influence on stock returns aligns with the conclusions drawn by Sausan et al. [16], Juniarta and Purbawangsa [24].

In contrast, the debt-to-equity ratio exhibits a regression coefficient of 0.035333, accompanied by a probability of 0.0119. This demonstrates a positive and statistically significant association between the debt-to-equity ratio and stock returns. As such, an escalation in the debt-to-equity ratio is likely to exert a substantial impact on stock prices. The quantitative outcomes provide validation for the third hypothesis of the research. The findings derived from this investigation correspond [23, 25, 26].

Table 2 shows that ROE*DER has a regression coefficient of 0.040647% (p = 0.0000) when using the fixed effect model, which accounts for interactions between independent and moderation factors. This supports the idea that there is a correlation between ROE and stock returns and also suggests that the debt-to-equity ratio may act as a moderator for this effect. The statistical evidence suggests that the fourth hypothesis of the study is correct.

For EPS*DER, we get a probability of 0.0043 and a regression coefficient of - 0.000203. This provides support for the study's fifth hypothesis, which states that the debt-to-equity ratio can dampen the impact of EPS on stock gains. The interaction between the debt-to-equity ratio and profits per share has a negative influence on stock returns, even while earnings per share have little effect on stock returns on their own. This

Dependent Variable:RS				
Var.	Coef.	Std. Error	t-Stat.	Prob
С	-0.443392	0.055975	-7.921186	0.0000
EPS	0.000133	7.31E-05	1.820333	0.0697
ROE	0.913126	0.143392	6.368047	0.0000
DER	0.107018	0.028739	3.723739	0.0002
MC	6.29E-15	1.34E-15	4.675925	0.0000
PBV	0.051874	0.009199	5.639309	0.0000
ROE*DER	0.040647	0.008843	4.596242	0.0000
EPS*DER	-0.000203	7.04E-05	-2.878071	0.0043
R-squared				0.533108
Adjusted R-squared				0.364333
F-Statistic				3.15686
Prob(F-statistic)				0.000000

Table 2. Analysis of regression with modifications.

data demonstrates that the influence of earnings per share on stock returns is mitigated by the debt-to-equity ratio. Stock returns were also found to be significantly affected by return on equity, earnings per share, and the debt-to-equity ratio all at once, with an F-statistic of 0.000000. The statistical evidence supports accepting the sixth hypothesis of the study.

5 Discussions

The present research elucidates a substantial influence of return on equity (ROE) on stock returns, as evidenced by the observed positive and statistically significant association between the variables. The outcomes align with those reported [5, 6, 23] who also discovered a notable, albeit reduced, impact of return on equity on stock returns. These findings are consistent with the signaling theory, which posits that an elevated return on shareholder capital serves as a favorable indication for investors. Ramlah suggests that an augmented return on equity value reflects the efficient utilization of shareholder capital by the company, thereby attracting increased investor interest and driving stock prices and returns higher [23].

The current investigation unveils a positive, albeit statistically insignificant, correlation between earnings per share (EPS) and stock returns, signifying that a rise in EPS will exert a minor but discernible effect on stock return values. Despite the anticipated upward trajectory of the data, the findings lack statistical significance. Juniata and Purbawangsa contend that an elevated EPS figure symbolizes a robust dividend signal [24]. However, in Indonesia, the dividend distribution process is determined by the General Meeting of Shareholders (GMS), rather than the high EPS value, which differs from the situation in other countries.

A positive and statistically significant relationship between the debt-to-equity ratio (DER) and stock returns has been identified in this study, implying that an increase in the debt-to-equity ratio will considerably affect stock return values. The results concur with those of Hertina and Saudi [23], Ramlah [25], Martani and Khairurizka [26]. Martani and Khairurizka assert that organizations adopt debt as an assertive financing strategy due to the high debt-to-equity ratio value [24]. The signaling theory suggests that management optimism about a company's future prospects represents a positive signal for investors, who then employ debt financing to maximize profits. This finding is related to the characteristics of the Sharia-compliant companies featured in the study, which are constituents of the Jakarta Islamic Index 70.

The debt-to-equity ratio (DER) can serve as a moderating variable, attenuating the influence of return on equity (ROE) on stock returns. A high DER, in accordance with signaling theory, bolsters the impact of ROE on stock returns, as the company's use of debt for financing and profit generation is consistent with management's belief in the organization's future success. A combination of high ROE and DER values is indicative of a profitable business model, consequently amplifying the positive effect of ROE on stock returns.

As a moderating variable, the debt-to-equity ratio (DER) diminishes the impact of earnings per share (EPS) on stock returns. Conventional wisdom suggests that a rise in EPS will correlate with increased stock return values. However, when factoring in the

moderating role of corporate debt on the relationship between EPS and stock returns, the EPS level may yield improved stock returns for a company with a low DER. This reduced financial obligation is advantageous for both lenders and investors.

This analysis reveals that DER, EPS, and ROE exert a substantial influence on stock returns. As such, investors in companies listed on the Jakarta Islamic Index 70 during the 2018–2021 period should consider these variables in their investment decisions.

6 Conclusion

The present investigation delves into the financial performance of companies listed on the Jakarta Islamic Index 70 (JII70) within the Indonesia Stock Exchange (IDX) during the period of 2018 to 2021, with the aim of ascertaining the influence of profitability on stock returns, while accounting for the moderating role of leverage. This scholarly endeavor employs a quantitative explanatory research approach, examining the relationships between various financial metrics and stock returns. Based on the findings elucidated in the preceding chapter, several key conclusions can be drawn: (1) A positive correlation exists between earnings per share (EPS) and stock returns, albeit this relationship is statistically insignificant. (2) A positive and statistically significant impact is observed for return on equity (ROE) on stock returns. (3) Similarly, the debt-to-equity ratio (DER) demonstrates a positive and statistically significant influence. (4) The effect of EPS on stock returns can be moderated, to a certain extent, by the debt-to-equity ratio. (5) Moreover, the debt-to-equity ratio can attenuate the influence of ROE on stock returns. (6) A composite positive effect on stock returns is observed when considering earnings per share, return on equity, debt-to-equity ratio, and moderation. Collectively, these findings underscore the significance of leverage as a crucial factor in mitigating the impact of profitability on stock returns, providing valuable insights for investors and stakeholders.

The following suggestions are made in light of the findings of the study: (1) Additional profitability indicators could be included in future studies to shed light on the varied effects of each indicator. Since the debt-to-equity ratio used in this study did not moderate the effect of earnings per share on stock returns, other leverage indicators could be used as moderating variables in future research.

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