

## Agency Conflict, Incentive Managerial and Growth Opportunities

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### Abstract

Agency theory proposes that managerial incentives, growth opportunities and debt are associated with firm performance. Nevertheless, previous findings remain inconclusive regarding whether agency conflicts are more severe in smaller or larger firms. Previous research has also paid limited attention to the role of debt in managerial responses to growth opportunities across firm sizes, particularly in emerging markets. This study therefore examines firm performance across different firm-size categories and investigates the roles of growth opportunities and debt in managerial decision-making. The analysis draws on 6,296 quarterly observations from firms in ten nonfinancial sectors listed on the Indonesia Stock Exchange from 2023 to 2025. Based on total-asset quartiles, the sample is divided into micro, small, medium and large firms. Three dummy-variable regression models are used to examine performance differences across firm sizes and changes associated with the inclusion of growth opportunities and debt. The results show that micro-sized firms have higher firm performance than larger firms, indicating closer alignment between managerial and shareholder interests. Growth opportunities have a negative association with firm performance in the model without debt, which may reflect managerial risk avoidance. When debt is included, the coefficient of growth opportunities becomes positive and debt is also positively associated with firm performance. These results indicate that creditor monitoring may limit managerial discretion and support more effective investment decisions. By considering firm size, growth opportunities and debt within a single empirical framework, this study provides additional evidence on agency conflicts in an emerging-market setting.

**Keywords:** Debt Monitoring, Growth Opportunities, Incentive Alignment, Risk Avoidance, Risk Taking.

### Introduction

Agency conflicts arise when managers and shareholders have different interests and risk preferences. Firm size may influence the extent of these conflicts, but previous findings remain inconclusive. One view suggests that smaller firms face wider differences in risk preferences between managers and shareholders (1). Managers in these firms may avoid risky investments when growth opportunities are available (2), whereas shareholders often prefer projects that offer higher potential returns (3). A different view suggests that firm growth improves access to professional management and supports stronger incentive alignment (4). At the same time, larger firms may experience greater information asymmetry because their organizational structures are more complex. It therefore remains unclear whether agency conflicts are more severe in smaller or larger firms and how these conflicts are related to

firm performance. Differences in managerial and shareholder risk preferences have important consequences for investment decisions. In principle, the successful use of growth opportunities can benefit both managers and shareholders. Firm growth may generate economies of scale (5), improve business diversification and reduce exposure to financial distress (6). These benefits can encourage managers to select investments that increase firm value. However, managerial responses to growth opportunities may differ across firm sizes. Managers in smaller firms face greater personal consequences when an investment fails because bankruptcy can affect employment, reputation and future career prospects (7). Shareholders can diversify investment risk across several companies, while managers usually cannot diversify the employment and reputation risks associated with

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a single firm. This difference may encourage managers to choose safer projects even when riskier projects offer higher expected returns.

Agency theory also provides competing explanations regarding the relationship between firm size and managerial incentives. Smaller firms generally have fewer financial resources and more limited access to professional managers (8). These constraints may increase the possibility of employing managers whose interests are not closely aligned with shareholder objectives. Clear contractual arrangements and collaboration in the use of growth opportunities can reduce this problem (9). Economic pressure and financing obligations may also encourage managers to pay greater attention to firm performance (10). Another argument suggests that smaller organizational structures allow shareholders to observe managerial actions more closely. Larger firms possess more assets and involve more complex decision-making processes, which may provide managers with greater opportunities to use corporate resources for personal purposes.

The separation of ownership and control remains central to this discussion (11). Managers control firm resources and usually possess more information than shareholders. This position may create incentives for perquisite consumption, empire building (12), inefficient project selection (10) and managerial entrenchment (13). Agency conflicts therefore involve not only differences in objectives but also difficulties in monitoring managerial actions and differences in attitudes toward risk (14). The severity of these problems may vary with firm size. Smaller firms have limited access to managerial labour markets (15) and may face constraints in reputation and financial resources (16). Larger firms provide a greater stock of assets that can be used to increase managerial utility (17,18), while their organizational complexity may weaken direct shareholder monitoring (19).

Growth opportunities can further affect this relationship. Information asymmetry makes it costly for shareholders to verify whether managers select investments that maximize shareholder value. Managerial overconfidence may result in excessive optimism and investment in projects with poor expected returns (20, 21). The opposite problem can also occur when risk-averse managers reject valuable projects because

failure could damage their careers. When growth opportunities are limited, managers may still pursue firm expansion to increase the resources under their control. When valuable opportunities are available, personal exposure to failure may instead encourage managers to select safer investments.

Debt may change managerial responses to growth opportunities. Privately controlled firms are sometimes assumed to experience fewer conflicts between owners and managers (22), although managerial incentive problems can remain present regardless of ownership structure (23). Debt can limit managerial discretion by reducing free cash flow and restricting the resources available for unproductive expansion (24). Contractual repayment obligations also place pressure on managers to maintain sufficient cash flows and improve operating performance. Debtholders can impose covenants and monitor corporate decisions because repayment depends on the firm's financial condition (18). Unlike shareholders, debtholders receive limited benefits from successful high-risk investments but bear substantial losses when a firm cannot meet its obligations (25). Creditor monitoring can therefore discourage both excessive risk taking and excessive risk avoidance (26).

Debt may also encourage managers to use growth opportunities more carefully. Regular monitoring and repayment obligations can reduce the tendency to reject valuable projects solely because of personal risk. This disciplinary effect may be stronger in smaller firms, where financial distress and loss of employment present more immediate concerns. Previous studies have generally examined firm size, investment opportunities, or debt separately. Less attention has been given to the way these factors jointly describe managerial incentives, particularly in an emerging-market setting. Evidence based on Indonesian listed firms also remains limited. This study addresses this gap by examining firm performance across size categories and by assessing changes associated with growth opportunities and debt. It contributes to the agency literature by placing firm size at the centre of the analysis and by examining debt as an external monitoring mechanism. Using quarterly observations from ten nonfinancial sectors listed on the Indonesia Stock Exchange, the study pursues four objectives: to compare firm

performance across firm sizes, examine the association between growth opportunities and firm performance, assess the relationship between debt and firm performance and determine whether debt changes the relationship between growth opportunities and firm performance.

## Methodology

### Research Design

This study uses a quantitative design based on quarterly financial data from companies listed on the Indonesia Stock Exchange. The analysis covers the 2023–2025 period and includes firms from ten nonfinancial sectors. The research process consists

of four stages. First, firm-level financial data are collected and screened according to the sampling criteria. Second, firms are classified into four size categories based on total-asset quartiles. Third, return on equity, earnings per share and the debt-to-equity ratio are used to represent firm performance, growth opportunities and debt monitoring, respectively. Finally, three regression models are estimated. Model 1 examines differences in firm performance across firm-size categories. Model 2 includes growth opportunities, while Model 3 incorporates debt to examine changes in the estimated relationships. Figure 1 summarizes the research design.

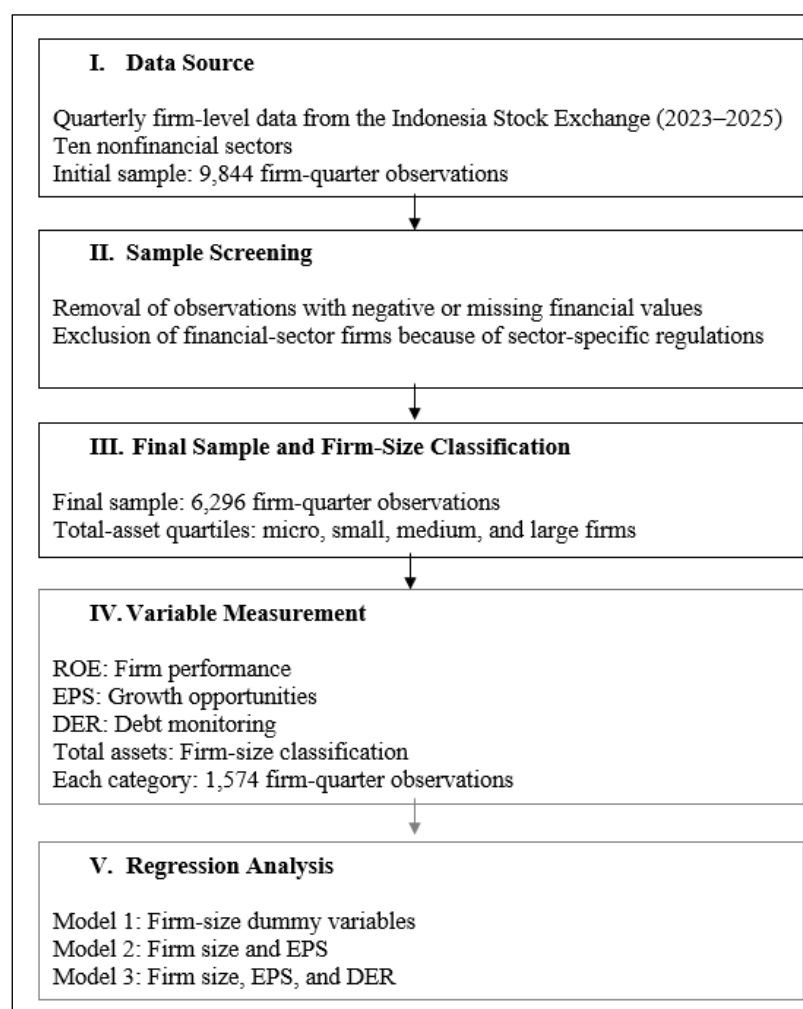


**Figure 1:** Research Design

**Note:** IDX = Indonesia Stock Exchange, ROE = Return On Equity, EPS = Earnings Per Share, DER = debt-to-equity ratio.

### Data and Sample

Firm-level data were obtained from statistical datasets published by the Indonesia Stock Exchange (IDX). The financial information was reported by sector and included balance-sheet and income-statement items. The dataset was

compiled from the fourth-quarter 2025 release and the available historical files covering the 2023–2025 period. Quarterly financial data published between 2023 and 2025 were collected, providing up to twelve quarterly observations for each firm. Consolidated financial statements

released by the IDX were used in the analysis. The initial sample comprised 9,844 firm-quarter observations, with substantial variation in the number of observations across sectors. The energy sector accounted for 1,034 observations, or 10.50% of the initial sample, while the transportation and logistics sector contributed 442 observations, or 4.49%. Table 1 presents the distribution of firm-quarter observations across sectors during the twelve-quarter period.

Several screening criteria were applied to construct the final sample. Firm-quarter observations with negative or missing values for total assets, net sales, earnings per share, debt-to-equity ratio, return on assets, or return on equity were excluded. Observations with negative return on assets or return on equity were removed because the analysis focused on firms with positive financial outcomes and growth opportunities (27). Companies in the financial sector were also excluded because this sector is subject to specific regulations and supervision by Bank Indonesia and the Financial Services Authority. After the screening criteria were applied, the final sample consisted of 6,296 firm-quarter observations. The sample included energy (12.07%), consumer cyclicals (16.63%), consumer non-cyclicals (17.38%), basic materials (13.01%), healthcare (4.35%), industrials (7.91%), infrastructure (8.34%), property and real estate (10.21%), technology (5.27%) and transportation and logistics (4.38%). Table 2 presents the sectoral distribution of the final sample.

## Variable Measurement

### Firm Performance

Firm performance was measured using return on equity (ROE), which represents the ability of a firm to generate net income from shareholders' equity. ROE is relevant to agency theory because managers are responsible for allocating the equity entrusted to them by shareholders. A higher ROE indicates that managers use shareholders' funds more efficiently, whereas a lower ROE may reflect less effective resource allocation. Greater agency problems have been associated with poorer firm performance because shareholders face limitations in directly monitoring managerial decisions (5). Closer alignment between managerial and shareholder interests can support more efficient investment decisions and improve shareholder returns. Quarterly ROE values for the

2023–2025 period were obtained from the financial statistics published by the IDX.

### Growth Opportunities

Growth opportunities were represented by earnings per share (EPS). EPS indicates the amount of earnings attributable to each outstanding ordinary share and reflects the financial return available to shareholders. In this study, positive EPS was used to identify firms that generated positive earnings and had the financial capacity to pursue investment opportunities. A higher EPS indicates greater earnings available per share, which may provide firms with more internal resources to support future investment and expansion. Quarterly EPS values for the 2023–2025 period were obtained from financial statistics published by the IDX.

### Debt to Equity Ratio

Debt monitoring was represented by the debt-to-equity ratio (DER), which measures the proportion of debt financing relative to shareholders' equity. A higher DER indicates greater reliance on debt and greater exposure of creditors to the firm's financial decisions. From an agency perspective, this exposure may encourage creditors to monitor managerial decisions, cash-flow allocation and the firm's capacity to meet repayment obligations (5, 13). Firms without debt financing rely more heavily on ownership and internal governance mechanisms to control agency costs (28), whereas debtholders can act as external monitoring agents by scrutinizing managerial and strategic decisions (29). However, an excessively high DER may increase financial distress and repayment risk. Quarterly DER values for the 2023–2025 period were obtained from financial statistics published by the IDX.

### Firm Size

Firm size was measured using total assets obtained from the quarterly financial statistics published by the IDX. The sample was divided into four size categories using the quartile distribution of total assets. Firms in the first quartile were classified as micro-sized firms, those in the second quartile as small-sized firms, those in the third quartile as medium-sized firms and those in the fourth quartile as large-sized firms. Each category contained 1,574 firm-quarter observations. Micro-sized firms served as the reference category in the regression analysis.

## Results

Table 1 presents the descriptive statistics for debt-to-equity ratio, earnings per share and return on

equity across the four firm-size categories. The table reports the minimum, first quartile, median, third quartile, maximum, mean and standard deviation of each variable.

**Table 1:** Descriptive Statistics by Firm-Size Category

|                             | Micro   | Small   | Medium  | Large   | All Firm |
|-----------------------------|---------|---------|---------|---------|----------|
| N-Obs                       | 1574    | 1574    | 1574    | 1574    | 6296     |
| <b>Debt to Equity Ratio</b> |         |         |         |         |          |
| Min                         | 0.01    | 0.01    | 0.05    | 0.02    | 0.01     |
| Q1                          | 0.15    | 0.26    | 0.34    | 0.40    | 0.26     |
| Median                      | 0.38    | 0.53    | 0.68    | 0.76    | 0.57     |
| Q3                          | 0.81    | 0.99    | 1.20    | 1.22    | 1.08     |
| Max                         | 2.25    | 2.58    | 3.09    | 3.00    | 2.88     |
| Mean                        | 1.35    | 1.14    | 2.26    | 1.08    | 1.46     |
| Std. Deviation              | 21.77   | 5.06    | 39.84   | 1.13    | 22.85    |
| <b>Earnings Per Share</b>   |         |         |         |         |          |
| Min                         | 0.01    | 0.02    | 0.09    | 0.08    | 0.01     |
| Q1                          | 1.53    | 6.53    | 14.42   | 34.59   | 6.31     |
| Median                      | 4.53    | 18.13   | 42.36   | 86.20   | 24.22    |
| Q3                          | 12.42   | 48.08   | 127.78  | 250.74  | 91.58    |
| Max                         | 36.34   | 138.86  | 374.94  | 725.08  | 278.81   |
| Mean                        | 98.37   | 406.29  | 195.68  | 377.58  | 269.48   |
| Std. Deviation              | 37.10   | 4385.70 | 1805.77 | 1210.62 | 2558.30  |
| <b>Return on Equity</b>     |         |         |         |         |          |
| Min                         | 0.01    | 0.01    | 0.01    | 0.01    | 0.01     |
| Q1                          | 0.10    | 0.12    | 0.15    | 0.13    | 0.12     |
| Median                      | 1.61    | 2.15    | 3.20    | 3.45    | 2.31     |
| Q3                          | 8.17    | 9.92    | 12.72   | 11.36   | 10.57    |
| Max                         | 25.83   | 31.07   | 40.29   | 36.00   | 33.12    |
| Mean                        | 169.14  | 11.33   | 40.01   | 7.75    | 57.06    |
| Std. Deviation              | 2317.36 | 57.95   | 761.72  | 13.48   | 1221.52  |

Table 1 presents the descriptive statistics for the debt-to-equity ratio, earnings per share and return on equity across the four firm-size categories. Each category consisted of 1,574 firm-quarter observations, resulting in a total of 6,296 observations. Micro-sized firms recorded the highest mean ROE at 169.14, followed by medium-sized firms at 40.01, small-sized firms at 11.33 and large-sized firms at 7.75. However, the median ROE of micro-sized firms was 1.61, lower than the medians of small-, medium- and large-sized firms at 2.15, 3.20 and 3.45, respectively. Micro-sized firms also recorded the largest standard deviation at 2,317.36. The considerable difference between the mean and median indicates substantial variation in firm performance within this category. Although several micro-sized firms generated particularly high returns on equity, the performance of most firms remained below the group mean.

Growth opportunities also varied across firm sizes. Small-sized firms had the highest mean EPS at

406.29, followed by large-sized firms at 377.58, medium-sized firms at 195.68 and micro-sized firms at 98.37. In contrast, median EPS increased with firm size, from 4.53 among micro-sized firms to 86.20 among large-sized firms. The difference between the mean and median values was particularly pronounced among small-sized firms, which recorded a standard deviation of 4,385.70. This result indicates considerable variation in earnings per share within the small-firm category. Medium-sized firms recorded the highest mean DER at 2.26, while the corresponding values were 1.35 for micro-sized firms, 1.14 for small-sized firms and 1.08 for large-sized firms. Median DER, however, increased from 0.38 among micro-sized firms to 0.76 among large-sized firms. Medium-sized firms also showed the greatest variation in DER, with a standard deviation of 39.84. Thus, debt financing differed considerably both within and across the firm-size categories.

The descriptive results show that micro-sized firms had the highest mean ROE and the lowest

mean EPS. Medium-sized firms relied more heavily on debt financing based on their mean DER. The large differences between the mean and median values indicate that the distributions were highly dispersed. Therefore, the mean values should be interpreted together with the medians and standard deviations when comparing the four firm-size categories. The first model applies a

dummy-variable regression framework to classify firms into micro-, small-, medium- and large-sized categories and examine their effects on firm performance. Because firm performance is measured as a ratio variable and firm size serves as an independent variable measured on a nominal scale, a dummy-variable regression approach is employed (30).

When  $D_2=1$ ,  $D_3=0$ ,  $D_4=0$ , firm performance corresponds to that of small-sized firms, as shown in Equation [1].

$$\begin{aligned} E(Y|D_2 = 1; D_3 = 0; D_4 = 0) &= \alpha + \beta_1 \cdot D_2 + \beta_2 \cdot D_3 + \beta_3 \cdot D_4 \\ E(Y|D_2 = 1; D_3 = 0; D_4 = 0) &= \alpha + \beta_1 \end{aligned} \quad [1]$$

Setting  $D_2=0$ ,  $D_3=1$ ,  $D_4=0$ , captures the effect of being a medium-sized firm on firm performance, as expressed in Equation [2].

$$\begin{aligned} E(Y|D_2 = 0; D_3 = 1; D_4 = 0) &= \alpha + \beta_1 \cdot D_2 + \beta_2 \cdot D_3 + \beta_3 \cdot D_4 \\ E(Y|D_2 = 0; D_3 = 1; D_4 = 0) &= \alpha + \beta_2 \end{aligned} \quad [2]$$

When  $D_2 = 0$ ,  $D_3 = 0$  and  $D_4 = 1$ , the effect of being a large-sized firm on firm performance is represented in Equation [3].

$$\begin{aligned} E(Y|D_2 = 0; D_3 = 0; D_4 = 1) &= \alpha + \beta_1 \cdot D_2 + \beta_2 \cdot D_3 + \beta_3 \cdot D_4 \\ E(Y|D_2 = 0; D_3 = 0; D_4 = 1) &= \alpha + \beta_3 \end{aligned} \quad [3]$$

When  $D_2=0$ ,  $D_3=0$ ,  $D_4=0$ , firm performance corresponds to that of micro-sized firms, as specified in Equation [4].

$$\begin{aligned} E(Y|D_2 = 0; D_3 = 0; D_4 = 0) &= \alpha + \beta_1 \cdot D_2 + \beta_2 \cdot D_3 + \beta_3 \cdot D_4 \\ E(Y|D_2 = 0; D_3 = 0; D_4 = 0) &= \alpha \end{aligned} \quad [4]$$

The second model examines differences across firm size under varying growth opportunities. In this specification,  $D$  denotes firm-size dummy variables,  $X_5$  represents growth opportunities and  $Y$  denotes firm performance. Accordingly, the effect of growth opportunities across firm size on

firm performance is estimated and the regression equations are specified separately for small-, medium-, large- and micro-sized firms. Equation [5] specifies the relationship between growth opportunities and firm performance for small-sized firms.

$$\begin{aligned} E(Y|D_2 = 1; D_3 = 0; D_4 = 0) &= \alpha + \beta_1 \cdot D_2 + \beta_2 \cdot D_3 + \beta_3 \cdot D_4 + \beta_4 \cdot X_5 \\ E(Y|D_2 = 1; D_3 = 0; D_4 = 0) &= \alpha + \beta_1 + \beta_4 \cdot X_5 \end{aligned} \quad [5]$$

Equation [6] presents the model specification for medium-sized firms.

$$E(Y|D_2 = 0; D_3 = 1; D_4 = 0) = \alpha + \beta_2 + \beta_4 \cdot X_5 \quad [6]$$

Equation [7] presents the model specification for large-sized firms.

$$E(Y|D_2 = 0; D_3 = 0; D_4 = 1) = \alpha + \beta_3 + \beta_4 \cdot X_5 \quad [7]$$

For micro-sized firms, the model is expressed in Equation [8].

$$E(Y|D_2 = 0; D_3 = 0; D_4 = 0) = \alpha + \beta_4 \cdot X_5 \quad [8]$$

The third model focuses on the role of debt in estimating the utilization of growth opportunities

across firm size. In addition to the first two models, an alternative specification is estimated by

incorporating debt. The theoretical foundation for this model, arguing that a reasonable level of debt financing disciplines managers against opportunistic behavior (31). At the same time, higher debt risk may create managerial incentives for both overinvestment and underinvestment. Taken together, these arguments highlight the role

of debt in shaping the exploitation of growth opportunities across firm size.

Accordingly, regression equations are specified sequentially for small-, medium-, large- and micro-sized firms. In this specification,  $D$  denotes firm-size dummy variables,  $X_5$  represents growth opportunities,  $X_6$  denotes the debt-to-equity ratio and  $Y$  denotes firm performance.

For small-sized firms, the model is specified in Equation [9].

$$E(Y|D_2 = 1; D_3 = 0; D_4 = 0) = \alpha + \beta_1 \cdot D_2 + \beta_2 \cdot D_3 + \beta_3 \cdot D_4 + \beta_4 \cdot X_5 + \beta_5 \cdot X_6$$

$$E(Y|D_2 = 1; D_3 = 0; D_4 = 0) = \alpha + \beta_1 + \beta_4 \cdot X_5 + \beta_5 \cdot X_6 \quad [9]$$

For medium-sized firms, the model is presented in Equation [10].

$$E(Y|D_2 = 0; D_3 = 1; D_4 = 0) = \alpha + \beta_2 + \beta_4 \cdot X_5 + \beta_5 \cdot X_6 \quad [10]$$

For large-sized firms, the model is shown in Equation [11].

$$E(Y|D_2 = 0; D_3 = 0; D_4 = 1) = \alpha + \beta_3 + \beta_4 \cdot X_5 + \beta_5 \cdot X_6 \quad [11]$$

For micro-sized firms, the model is expressed in Equation [12].

$$E(Y|D_2 = 0; D_3 = 0; D_4 = 0) = \alpha + \beta_4 \cdot X_5 + \beta_5 \cdot X_6 \quad [12]$$

The empirical analysis begins by reporting initial results on the effect of firm size on firm performance, as presented in Table 2. The first set

of tests is motivated by two competing theoretical mechanisms: the entrenchment hypothesis and the alignment hypothesis.

**Table 2:** Hierarchical Regression Results for Firm Performance

|           | Model 1  | Model 2  | Model 3  |
|-----------|----------|----------|----------|
| Intercept | 169.14*  | 160.24*  | 137.06*  |
| D2        | -157.81* | 0.09*    | -182.10* |
| D3        | -129.13* | -185.66* | -153.49* |
| D4        | -161.39* | -137.93* | -182.02* |
| EPS       |          | -186.64* | 0.09*    |
| DER       |          |          | 17.15*   |
| F-Test    | 6.12     | 63.13    | 207.51   |
| R-Square  | 0.003    | 0.039    | 0.142    |
| N-Obs     | 6296     | 6296     | 6296     |

**Note:** \* indicates statistical significance at the 5% level ( $p < 0.05$ )

Table 2 reports the estimated effects of firm size, captured through dummy variables, on firm performance.

$$E(Y|D_2; D_3; D_4) = 169.14 - 157.81 \cdot D_2 - 129.81 \cdot D_3 - 161.39 \cdot D_4 \quad [13]$$

The estimated ROE coefficients across micro-, small-, medium- and large-sized firms indicate systematic differences in firm performance across size categories

Using Equation [13],

$$E(Y|D_2 = 0; D_3 = 0; D_4 = 0) = 169.14$$

$$E(Y|D_2 = 1; D_3 = 0; D_4 = 0) = 11.33$$

$$E(Y|D_2 = 0; D_3 = 1; D_4 = 0) = 40.01$$

$$E(Y|D_2 = 0; D_3 = 0; D_4 = 1) = 7.75$$

Larger firm size tends to generate greater agency conflicts, whereas smaller firms experience fewer

agency problems. As a result, managers in smaller firms have stronger incentives to act in the

interests of shareholders, leading to improved firm performance. Return on equity reflects managerial ability to deploy equity capital efficiently to generate net income. Managers in micro-sized

firms generate net income equivalent to 169.14 times total equity, resulting in higher firm performance and, ultimately, greater shareholder welfare (32).

Table 2 reports managerial behavior in exploiting growth opportunities across firm size, as specified in the Equation [14].

$$E(Y|D_2; D_3; D_4; X_5) = 160.24 + 0.09.D_2 - 185.66.D_3 - 137.94.D_4 - 186.64.X_5 \quad [14]$$

The model for micro-sized firms is specified in Equation [15], while the model for small-sized firms is presented in Equation [16]. The

corresponding specification for medium-sized firms is shown in Equation [17] and the model for large-sized firms is expressed in Equation [18].

$$E(Y|D_2 = 0; D_3 = 0; D_4 = 0; X_5) = 160.24 - 186.64.X_5 \quad [15]$$

$$E(Y|D_2 = 1; D_3 = 0; D_4 = 0; X_5) = 160.33 - 186.64.X_5 \quad [16]$$

$$E(Y|D_2 = 0; D_3 = 1; D_4 = 0; X_5) = -25.42 - 186.64.X_5 \quad [17]$$

$$E(Y|D_2 = 0; D_3 = 0; D_4 = 1; X_5) = 22.31 - 186.64.X_5 \quad [18]$$

Across firm size, managers exhibit incentives to limit the exploitation of growth opportunities, which in turn affects shareholder welfare. Micro- and small-sized firms display wider gaps in risk preferences between managers and shareholders, leading managers to adopt risk-avoidance behavior. Rising investment risk in Indonesia driven by global uncertainty (33). Ongoing trade tensions, incomplete post-COVID-19 recovery and contractionary monetary policies in developed

economies have contributed to heightened economic instability. Under such conditions, growth opportunities often become illiquid, significantly affecting firm performance as managers become more inclined toward risk avoidance. Model 3 in Table 2 illustrates the role of debt in shaping managerial decisions regarding the exploitation of growth opportunities across firm sizes. The corresponding specification is presented in Equation [19].

$$E(Y|D_2; D_3; D_4; X_5; X_6) = 137.06 - 182.10.D_2 - 153.49.D_3 - 182.02.D_4 + 0.09.X_5 + 17.15.X_6 \quad [19]$$

The model for micro-sized firms is specified in Equation [20], followed by the specification for small-sized firms in Equation [21]. The model for

medium-sized firms is presented in Equation [22], while the specification for large-sized firms is shown in Equation [23].

$$E(Y|D_2 = 0; D_3 = 0; D_4 = 0; X_5; X_6) = 137.06 + 0.09.X_5 + 17.15.X_6 \quad [20]$$

$$E(Y|D_2 = 1; D_3 = 0; D_4 = 0; X_5; X_6) = -45.04 + 0.09.X_5 + 17.15.X_6 \quad [21]$$

$$E(Y|D_2 = 0; D_3 = 1; D_4 = 0; X_5; X_6) = -16.43 + 0.09.X_5 + 17.15.X_6 \quad [22]$$

$$E(Y|D_2 = 0; D_3 = 0; D_4 = 1; X_5; X_6) = -44.96 + 0.09.X_5 + 17.15.X_6 \quad [23]$$

## Discussion

The first model shows that firm performance differed across the four firm-size categories. Micro-sized firms recorded the highest mean ROE at 169.14, followed by medium-sized firms at 40.01, small-sized firms at 11.33 and large-sized firms at 7.75. This pattern supports the alignment perspective, which suggests that a simpler organizational structure can facilitate closer shareholder monitoring and limit managerial discretion. Lower information asymmetry in

smaller firms may allow shareholders to observe investment and financing decisions more directly, thereby reducing opportunities for managerial entrenchment (34). The result is also consistent with the view that managerial control becomes more difficult as organizational complexity and the number of decision-making layers increase (8). The result, however, differs from earlier evidence suggesting that smaller firms face more severe agency problems because of limited financial resources, weaker reputations and restricted

access to professional managers (15). The size categories are relative classifications based on total-asset quartiles among listed firms rather than statutory classifications of micro, small and medium enterprises. Even firms classified as micro-sized in this study remain publicly listed and subject to disclosure and capital-market requirements. These conditions may provide stronger external oversight than is typically available to privately owned small firms. The descriptive results also require careful interpretation. Although micro-sized firms had the highest mean ROE, this category recorded the lowest median and the largest standard deviation. Thus, the high mean appears to have been influenced by a limited number of observations with unusually high returns and may not represent the performance of every micro-sized firm.

The second model indicates a negative association between EPS and ROE after firm-size differences were considered. This finding suggests that firms with greater earnings-based growth opportunities did not necessarily achieve higher performance during the observation period. The negative coefficient is consistent with managerial risk-avoidance arguments. Managers may reject projects with favourable expected returns when potential failure creates personal costs through job loss, reputational damage, or reduced career opportunities (35). Such concerns can produce underinvestment, particularly when managerial wealth and employment are closely connected to the financial condition of a single firm. This result differs from the conventional expectation that growth opportunities improve firm value through productive investment, economies of scale and business diversification (5). The discrepancy does not necessarily mean that growth opportunities reduce performance. The result may reflect the way managers respond to available opportunities and the period required for investment returns to materialize. Growth projects often require substantial initial expenditure, while the resulting benefits may only become visible in later periods. The use of quarterly observations may therefore capture the immediate financial cost of investment without fully capturing its longer-term return. EPS also represents an earnings-based proxy rather than a direct market valuation of future growth. This measurement choice may contribute to the

difference between the present result and findings based on market-to-book ratios or Tobin's Q.

The Indonesian economic setting provides an additional explanation. Investment decisions during 2023–2025 were made amid global uncertainty, post-pandemic adjustment and restrictive monetary conditions in several economies (33). Under these circumstances, managers may have placed greater emphasis on liquidity and short-term financial stability. The preference for safer projects can protect current performance, but it may also limit the use of investment opportunities with higher potential returns. This response is understandable because managers cannot diversify employment and reputational risks as easily as shareholders can diversify investment portfolios (1). The negative EPS coefficient in Model 2 is therefore more appropriately interpreted as evidence consistent with cautious investment behaviour rather than proof that growth opportunities are inherently harmful to firm performance.

The third model provides a different pattern after DER was included. The EPS coefficient changed from -186.64 in Model 2 to 0.09 in Model 3, while DER had a positive coefficient of 17.15. The explanatory power of the model also increased from 3.9% to 14.2%. These changes are consistent with the disciplinary role of debt proposed in agency theory. Contractual repayments reduce free cash flow available for discretionary managerial use, while creditor monitoring places additional limits on unproductive investment and perquisite consumption (25). Creditors also have incentives to monitor cash-flow allocation and operating performance because repayment depends on the firm's financial capacity (24). The positive DER coefficient is consistent with earlier arguments that debt can constrain managerial opportunism and encourage more efficient use of corporate resources (36). However, debt does not always produce beneficial outcomes. High leverage can also contribute to financial distress, debt overhang, underinvestment, or the selection of projects that transfer risk to creditors (37). The positive association found in this study may reflect the screening criteria, which retained firms with positive financial outcomes, as well as the monitoring environment of listed companies. Creditors may have exercised closer oversight when financial exposure increased, encouraging

managers to maintain profitability and meet contractual obligations (38). Even so, the present model does not establish that debt directly caused changes in managerial behaviour.

The results also do not demonstrate that debt monitoring was stronger in micro-sized firms than in other size categories. The regression model included firm-size dummy variables but did not include interaction terms between DER and firm size. Any stronger relevance of creditor monitoring for smaller firms should therefore be treated as a theoretical explanation rather than a directly tested effect. Smaller firms may face more immediate consequences from financial distress, including loss of managerial employment and reputation, but additional analysis would be needed to establish whether the relationship between debt and performance varies significantly across firm sizes.

The three models show that firm size alone provides only a limited explanation of firm performance. Model 1 explained 0.3% of the variation in ROE, while the inclusion of EPS increased the explained variation to 3.9%. Model 3 provided the greatest explanatory power at 14.2% after DER was included. This progression suggests that financing and investment conditions provide additional information beyond firm size. Nevertheless, most of the variation in ROE remains unexplained, indicating that other factors, including ownership structure, managerial characteristics, industry conditions, corporate governance and macroeconomic changes, may also influence firm performance. The main contribution of the findings lies in showing how firm size, earnings-based growth opportunities and debt can be considered within a single agency framework in an emerging-market setting.

## Conclusion

This study examined the associations among firm size, growth opportunities, debt and firm performance using 6,296 quarterly observations from nonfinancial companies listed on the Indonesia Stock Exchange during 2023–2025. Firm size was classified into four categories based on total-asset quartiles, while ROE, EPS and DER were used to represent firm performance, growth opportunities and debt monitoring. The results show that micro-sized firms recorded the highest mean ROE, although the considerable difference

between the mean and median indicates substantial variation within this category. Model 1 further showed that small-, medium- and large-sized firms had lower estimated ROE than the micro-sized reference group. Firm size alone, however, explained only a small proportion of the variation in firm performance. The inclusion of EPS in Model 2 produced a negative coefficient, indicating that earnings-based growth opportunities were negatively associated with ROE after firm-size differences were considered. This result is consistent with cautious investment behaviour in which managers may avoid projects that expose employment and reputation to greater risk. When DER was included in Model 3, the EPS coefficient changed from negative to positive, while DER also showed a positive association with ROE. The explanatory power of the model increased to 14.2%, suggesting that debt provides additional information for understanding firm performance beyond firm size and EPS. These findings support the agency view that creditor oversight can limit managerial discretion and encourage more disciplined use of corporate resources. However, the results do not establish a causal relationship or demonstrate that debt moderates the association between growth opportunities and firm performance. The study contributes to the agency literature by examining firm size, earnings-based growth opportunities and debt within a single empirical framework using evidence from an emerging capital market.

## Limitations and Future Research

This study has several limitations. First, EPS was used as an earnings-based proxy for growth opportunities. Although EPS reflects earnings attributable to shareholders and may indicate the financial capacity to support investment, it does not directly measure market expectations of future growth. Future studies could use market-to-book ratio, Tobin's Q, sales growth, asset growth, or capital expenditure to provide alternative measures of growth opportunities. Second, firm size was classified using total-asset quartiles. The labels micro, small, medium and large therefore represent relative positions within the sample and do not correspond to the statutory classification of enterprises in Indonesia. Further research could use continuous measures such as the natural logarithm of total assets or apply official size classifications where appropriate. Third, the

regression models included firm-size dummy variables but did not include interaction terms. Consequently, the analysis cannot establish whether the associations of EPS and DER with ROE differ significantly across firm sizes. Future research could include interactions between firm size and EPS, firm size and DER, or EPS and DER to examine these relationships more directly. Fourth, the financial ratios displayed substantial dispersion, particularly ROE, EPS and DER. Extreme observations may have influenced the mean values and regression coefficients. Further analysis could apply winsorization, robust regression, or alternative measures of central tendency to assess whether the results remain stable after the influence of extreme observations is reduced. Fifth, observations with negative or missing financial values were excluded during sample selection. This procedure allowed the analysis to focus on firms with positive financial outcomes, but it may have reduced the representation of financially distressed firms. Future studies could retain loss-making firms and examine whether financial distress changes managerial responses to growth opportunities and debt. The sample was limited to listed nonfinancial firms in Indonesia during 2023–2025. The findings may not be directly applicable to private firms, financial institutions, or companies operating in other regulatory and economic settings. A longer observation period, cross-country data, firm and time fixed effects and additional variables such as ownership concentration, board structure, managerial ownership, industry conditions and macroeconomic indicators could provide a more comprehensive explanation of firm performance.

## Abbreviations

None.

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## Author Contributions

Arief Yulianto: Conceptualization, Methodology, Supervision, Project Administration, Funding Acquisition, Writing – Review and Editing, Suwito Eko Pramono: Conceptualization, Methodology, Validation, Supervision, Writing – Review and Editing, Angga Pandu Wijaya: Methodology,

Formal Analysis, Data Curation, Visualization, Writing – Original Draft, Writing – Review and Editing, Fauzan Abadi: Investigation, Resources, Data Curation, Formal Analysis, Writing – Original Draft, Boonrat Plangsorn: Investigation, Resources, Validation, Writing – Review and Editing.

## Conflict of Interest

The authors declare no conflicts of interest.

## Data Availability

The data that support the findings of this study are available from Indonesia Stock Exchange (IDX) in <https://www.idx.co.id/en>

## Declaration of Artificial Intelligence (AI) Assistance

AI was used to assist with English-language editing and improve grammatical accuracy as well as clarity.

## Ethics Approval

This study did not involve human participants, personal data, or animal subjects.

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