Received:02 May 2025 | Revised:28 May 2025 | Accepted: 16 June 2025
DOI: 10.62460/IJEASS/2025.029

RESEARCHARTICLE

Interdisciplinary Journal of Emerging and Social Sciences

# Institutional Ownership, Operational Efficiency and Cost of Debt

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## Abstract

This study examines the effect of operational efficiency and institutional ownership on the cost of debt, providing valuable insights for managers in shaping financial policies within organizations. Using a dataset of Pakistani companies spanning the period 2009 to 2024, the analysis employs the factor effect model to explore the proposed relationships. In this framework, operational efficiency and institutional ownership are considered as the independent variables, while the cost of debt serves as the dependent variable. The findings of our study reveal that institutional ownership has a significant positive effect on the cost of debt, suggesting that greater ownership by institutions may increase monitoring, thereby influencing borrowing conditions. Similarly, operational efficiency is also found to have a strong positive effect on the cost of debt, indicating that firms with improved efficiency are more likely to experience changes in their financing costs. Overall, the study establishes a positive relationship between institutional ownership, operational efficiency, and the cost of debt, contributing to the literature on corporate governance and financial management.

*KEYWORDS*
Institutional ownership; Operational efficiency; Cost of debts; Fixed effect model

## 1 | INTRODUCTION

Institutional ownership and operational efficiency have become an interesting study for academic and practical purposes. The cost of debt plays a vital role in the operations of firms. The food and agriculture sector is the backbone of any country, and this sector is also the backbone of Pakistan's economy. Institutional ownership has been a widely studied topic in the field of finance and accounting. Institutional ownership refers to the ownership of shares of a company by institutional investors such as mutual funds, pension funds, insurance companies, and hedge funds. The level of institutional ownership in a company is an essential indicator of the level of interest and confidence that large investors have in the company's prospects. In the world of finance, there are several factors that impact a company's financial performance. Three of the most significant factors are institutional ownership, operational efficiency, and cost of debt. Institutional ownership refers to the percentage of a company's shares that are owned by large institutional investors such as mutual funds, pension funds, and hedge funds. Operational efficiency refers to a company's ability to use its resources efficiently to generate profits. Lastly, the cost of debt refers to the interest rate a company pays on its debt (Mirza at al., 2025).

The increase in obligation cost will cause the obligation default chance of the venture, which will be reflected in the extra speculation risk remuneration requested by loan bosses, subsequently bringing about an endless loop of corporate financial relationships. Institutional ownership has a significant effect on the cost of debt. Institutional ownership hurts the firm's cost of debt. They urge that institutional ownership affects the management of the firm, and they also influence the debts of the firm. There is a positive relationship between institutional ownership and the cost of debt (Khalid et al., 2025). They found that a large number of institutional owners have an expert team, which has a positive effect on the performance of the firms. The relationship between institutional ownership can lead to higher costs of debt. Instant institutions have conflicts of interest as they always look for profit. They urge them to make bold decisions for their interest, which can lead to the heaven of its which hurts e firms (Xuezhou et al., 2022). Institutional

  

investors play a bad role in the firm because they transmit information to the financial markets and other investors (Chidambaram& John, 2000). Large institutional investors can get the information from the internal management and convey this information to the other shareholders. So, this factor may also favor the cost of debt. Institutional investors might give imperfect monitoring due to their internal agency problems. Since there are not adequate individual large block holders to provide better monitoring, even imperfect monitoring is beneficial (Gorton & Kahl 1999). Institutional investors give a monitoring role related to executive remuneration contracts (Hartzell & Starks 2003). They find the positive live relationship between institutional ownership and the cost of debt they suggest that institutional investor provide a vital role in the management of the firms with their expertise in the negative relationship between institutional ownership and bank risk-taking which explain that the corporate which the institutional investor sponsors is may be likely to get the vote mostly in their own favorable than the those which are individual shareholders religious organizations (Gillan & Starks, 2000). They also urge that through voting power, institutional ownership can influence the management and the decision of the firm (Khalid et al., 2025).

Operational efficiency is a crucial factor that affects a company's cost of debt. A more efficient company is likely to have lower operating costs, higher profits, and better cash flows, which all translate into lower perceived risks for lenders, resulting in a lower cost of debt. In contrast, a less efficient company may have higher operating costs, lower profits, and weaker cash flows, which may increase perceived risks for lenders, leading to higher costs of debt.

Evidence concerning the effect of operational efficiency on the cost of debt of companies has been provided by the research studies. An example is the work conducted by Chen and Strange (2005), which concluded that operational efficiency had a positive correlation with the credit ratings of a firm and a negative correlation with the cost of debt. The research concluded that operational effectiveness can largely affect the creditworthiness of a company and debt costs. In the same manner, according to Cheng, Ioannou, and others, firms with better environmental, social, and governance (ESG) ratings realized a reduction in the cost of debt. It was in the study that this relationship was attributed to the fact that the positive relationship of ESG performance and the high efficiency of operations translates to the fact that low risks are recorded and the cost of debts is reduced. Besides, Rajan and Zingales (1995) study concluded that the accessibility of firms to the credit markets is dependent on their effectiveness in their operations. The study proposed that more efficient operations firms will face less risk and, therefore, with reduced costs of securing loans, more financing facilities will be available to them. On the whole, the evidence indicates that operational efficiency is a pivotal element that influences the cost of debt of the given company. The cost of debt is likely to be lower in a more efficient company and higher in a less efficient company, so companies must make operational efficiency their primary goal in order to become more financially efficient and minimize their cost of debt.

Moreover, ownership and operational efficiency of the institutions, the cost of debt is a significant variable that affects the financial outcome of a firm. The expense of debt is the amount a firm pays as interest on the money it owes at a specific rate. The rising cost of debt will lead to an augmented burden and poorer profitability of a company, whereas a smaller rate of debt may cause a weakened financial burden and better profitability.

A number of factors determine the cost of debt of any given company. The risk profile and creditworthiness of the company are one such aspect. The creditworthiness of a company is determined by the lenders based on its financial health, whereas finances determine the ability of the firm to be in a position to generate stable cash flows and consistency in meeting fixed costs such as debt obligations. The more influential firms have good financial performance and a less risky position, the higher their chance of attaining favorable terms and low interest rates on their debt.

The other force that will determine the cost of debt is the macroeconomic environment. The level of interest rates, the inflation rate, and the stability of the economy may affect the net cost of borrowing among companies. During a period when there are high-interest rates or economic shocks, lenders might be required to charge higher interest to keep up with the risk.

Moreover, the cost of debt may also be influenced by industry-specific factors. Riskier or cyclical industries can endure greater borrowing costs when compared with industries that have a steady and more predictable cash flow. To take an example, businesses in the technical field might incur higher interest rates on the bond because it is considered a volatile and fast-growing field.

Additionally, the cost of debt is also determined by capital structure and the leverage of the company. When setting the interest rates, the lenders will look at the debt equity ratio of the company and its capacity to pay the prevailing debt. The higher the debt as a proportion of the equity, the riskier a firm can be considered and the more it might also be charged upon borrowing.

It is worth observing that the cost of debt does not only depend on the outside factors. Others include the quality of management in the company, governance practices, accounting transparency, and financial transparency, which are internal factors affecting the cost of debt. Firms that have a high quality of management, governance system, and accounting

systems are more likely to gain the trust of lenders and therefore pay a lower interest rate.

The fact that we have the cost of debt as the only thing that is a determining element in the financial performance of a company. The determination of the cost of debt is based on institutional ownership, its efficiency in operations, and many external and internal factors. Being acquainted with these factors and their combination is critical to companies seeking to ensure that their cost of borrowing funds is efficiently managed and their financial situation improved. The companies should endeavor to attain low costs of debt, bettering profitability, and long-term sustainability by optimizing institutional ownership, efficient operations, a strong credit profile, and responding to industry and macroeconomic conditions.

## 2. LITERATURE REVIEW

### 2.1. Impact of institutional ownership on Cost of Debt

Cao, Li, and Tang (2018), Institutional Ownership and the Cost of Corporate Borrowing. The sample size is a collection of U.S. firms during the period of 1990 to 2015, and the research result shows that the cost of debt is negatively correlated with institutional ownership, given that there is a set of firm-specific characteristics and market characteristics taken into consideration. In particular, an increase of one standard deviation in institutional ownership is correlated to a reduction in the cost of debt of about four basis points. The paper also tries to establish the possible mechanisms that explain this relationship, and its results indicate that the impact of institutional ownership on the cost of debt is mediated in part by a firm's credit rating. Institutional ownership has a positive correlation to higher credit rating, which is also shown to have a negative impact on the cost of debt. The authors postulate that institutional investors can offer an indication of the creditworthiness of the company to lenders, resulting in a lower cost of debt (Adil et al., 2025) and institutional ownership, and the necessity to resolve it in terms of the cost of debt activation (i.e., debt financing, not publicly presented). The authors conclude that institutional ownership has a negative correlation value with the cost of the private placements incorporated, even after adjusting for different firm and deal features. The authors indicate that institutional investors can have a certification effect that decreases the degree of information asymmetry between borrower and lender, which may cause a reduction in the cost of debt.

Institutional Ownership and Corporate Debt Structure: Evidence on International Corporate Bonds investigates whether institutional ownership has any effect on the debt structure (i.e., the composition of debt instruments) in international corporate bond issues. It is identified that, owing to high institutional ownership, there is an increased percentage of bonds rated as investment grade and having denominations in foreign currency. According to the authors, institutional investors can be keener on a more diversified and less risky debt portfolio, so the cost of debt can be lower.

Institutional Ownership, Debt Maturity, and the Cost of Debt: The effect of institutional ownership on the maturity structure of debt and the cost of debt among European firms is observed. The empirical study reveals that after controlling for a range of firm and market characteristics, greater institutional ownerships imply longer debt maturity and reduced cost of debt. The authors indicate that institutional investors might prefer lengthier types of debt instruments that have the potential of decreasing the cost of debt by reducing the risk of refinancing.

In general, these papers indicate that institutional ownership can also play a decisive role in the cost of debt of a company, and the phenomenon of this relationship may differ across different situations and market movements.

### 2.2. Impact of operational efficiency on the cost of debt

The previous studies have concluded that operational efficiency and the cost of debt have a positive correlation, as many have determined. In another example, Chen et al. (2018) established that more efficient firms had a lower burden of the cost of borrowing than less efficient firms. This is because the lenders will view the firms with better efficiency than other, less efficient firms as less risky, thus providing them with a lower cost of borrowed capital (Adil et al., 2024).

Operational Efficiency and Corporate Borrowing Costs". It examines the sample of U.S. companies during the period 2001-2015 and concludes that operational efficiency has been linked negatively with the cost of debt, attributing the depreciation in the said results to the firm and market attributes. Namely, a one standard deviation change in operational efficiency is linked to a downward shift in the cost of debt by about four basis points.

The paper also explores the possible mediating mechanisms in this relationship, and the result is that part of the impact of operational efficiency on the cost of debt is mediated by the credit rating of the firm. The result shows a positive relationship between higher operational efficiency and the level of the credit rating, which is negatively linked to the cost of debt. The implications that the authors give indicate that effective operations can imply to lenders that the firm is less risky and able to generate cash flows to meet its debt, which makes the cost of debt lower. It also examines the influence of operational efficiency on the price of debt, which is more dominant when the firm has a high

level of financial leverage and the firm and market information asymmetry are high. The authors innovate the idea that the operational efficiency could be more significant in attenuating the risk characteristics of high leverage and information asymmetry and its resultant lower cost of debt.

The article by Beltran et al. (2019) is named Operational Efficiency and Corporate Debt Structure and addresses the issue of operational efficiency and debt structure of Spanish companies. The authors deduce that more efficient companies are more likely to have a higher proportion of long-term debt and a lower proportion of short-term debt, even on adjusted contingency factors that could play a part in the debt structure. The authors indicate that this relationship could be because efficient operations have the virtue of sending a signal to lenders that the firm can match its long-term debt, and therefore result in reduced cost of debt. On balance, these studies indicate that the operational efficiency can significantly influence the cost of debt of a company and that the mechanism in question may also depend on the context and the state of the market (Hussain et al., 2025).

## 3 MATERIAL AND METHOD

Our study used secondary data as we are checking the impact of institutional ownership and operational efficiency on the cost of debt. We collect data from 2009 to 2024 from the financial statements of different companies in the food and sugar sector. We get data on the sectors of Pakistan from various databases.

### 3.1. Measurement of variables

Our independent variables are institutional ownership and operational efficiency, and our dependent variable is the cost of debt.

### 3.2. Dependent Variable

The cost of debt is the interest rate that a company pays on its obligations, such as bonds and loans.

### 3.3. Cost of debts

The ratio of interest expenses and interest-bearing debt. As used by Wang et al. (2023)

### 3.4. Independent Variable

Institutional ownership refers to the percentage of company shares that are owned by institutional investors such as mutual funds, pension funds, and hedge funds.

Institutional ownership (Shares held by institutional /Total shares outstanding) *100%. As used by Ferreira et al. (2008).

### 3.5. Operational efficiency

Operational efficiency is the measure of resource allocation and can be determined as the ratio between output gained from the business and the input to run an operation. Operating expenses/total revenue. By Wang et al. (2023)

### 3.6. Total leverage

Total leverage is a financial metric that measures a company's overall debt levels and its ability to meet its financial obligations. It is calculated by dividing the company's total debt by its total assets. The formula for total leverage is:

Total Leverage = Total Debt / Total Assets

### 3.7. Statistics

We use operational efficiency and institutional ownership to measure the cost of debts and control variables, company age, and total liability fixed assets.

$$(CD)\ i,t = \beta o + \beta 1(OE)i,t + \beta 2\ (INO)\ i,t + \beta 3\ (lvg)\ I,t + \beta 4\ (AGE)i,t + \beta 5\ (TL)i,t + \beta 6\ (TA)\ it + \varepsilon i,t$$

Where CD stands for company cost of debt, βo is the constant OE for operational efficiency INO for institutional ownership, TL for total liabilities, lvg stands for total leverage CAG for company age, TL means total liability, and TA is the total assets. ε is the error term, represents the firm, and t indicates the period.

## 4 | RESULTS

This section reports and discusses the statistical results of our research. First, we report the initial diagnostics, then move on to the benchmark results, and finally explain the mechanisms involved.

In Table 1, we use descriptive statistics. The mean value of COD is 265.0118, and the standard deviation is 187.9210. The difference between them is more because the actual value deviates from the mean. The mean value of operational efficiency is 0.2279, and the standard deviation is 0.6619; the difference between them is less because the actual value is not deviated from the mean. The mean value of institutional ownership is 0.4054, and the standard deviation is 0.2926; the difference between them is less because the actual value is not deviated from the mean. The mean value of age is 42.7044, and the standard deviation is 15.6443; the difference between them is more because the actual value deviates from the mean. The mean value of size is 21.8317, the standard deviation is 1.1972, and the difference is more because the use of the actual value deviates from the mean. The mean value of leverage is 0.9263, the standard deviation is 0.7356, and the difference between them is less because the actual value is not deviated from the mean.

The minimum value of COD is 0.0000, and the maximum value of COD is 12423.0000. The minimum value of operational efficiency is 0.0034, and the maximum value is 7.8456. The minimum value of institutional ownership is 0.0000, and the maximum value is 0.9980. The minimum value of age is 11.0000 and the maximum value is 87.0000. The minimum value of size is 17.7750 and the maximum value is 24.4636. The minimum value of leverage is 0.0074, and the maximum value is 6.0362.

In Table 2, we report the correlation among explanatory variables to check for any potential issue of multicollinearity. Multicollinearity means one independent variable depends on other independent variables. In our results, there is no issue of multicollinearity because all values of correlation analysis are less than 0.70.

In Table 3, we run the regression model by using the fixed effect model because this is the main model of panel regression. This model assumes that the effect of the independent variable on the dependent variable remains fixed or constant.

In Table 4, we run regression analysis by using the generalized method of moments (GMM). GMM tends to the endogeneity and the unobserved heterogeneity issues. We apply the two-step system dynamic panel estimation due to the short period; however, the lengthy cross-section data. It additionally suits autoregressive elements in the dependent variable (Azeem, Hussain, and Hussain, 2012).

The effect of operational efficiency on the cost of debts is significantly positive if the operational efficiency increases the cost of debt increases. The impact of institutional ownership on the cost of debts is significantly positive if the operational efficiency increases the cost of debt increases. The effect of age on the cost of debts is significantly positive if the operational efficiency increases the cost of debt

**Table 1:** Descriptive Statistics

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| COD | 105 | 265.0118 | 1587.9210 | 0.0000 | 12423.0000 |
| OPEFF | 202 | 0.2279 | 0.6619 | 0.0034 | 7.8456 |
| Institute | 203 | 0.4054 | 0.2926 | 0.0000 | 0.9980 |
| AGE | 203 | 42.7044 | 15.6443 | 11.0000 | 87.0000 |
| SIZE | 203 | 21.8317 | 1.1972 | 17.7750 | 24.4636 |
| LEVERAGE | 203 | 0.9263 | 0.7356 | 0.0074 | 6.0362 |

**Table 2:** Correlation Matrix

| Variable | COD | OPEFF | Instit~p | Age | Size | LEVERAGE |
|---|---|---|---|---|---|---|
| COD | -0.0468 | 1 | | | | |
| OPEFF | 0.057 | -0.0238 | 1 | | | |
| Institutio~p | 0.0235 | 0.0003 | 0.0583 | 1 | | |
| AGE | 0.1106 | -0.0835 | -0.1112 | 0.1233 | 1 | |
| SIZE | 0.2929 | 0.1098 | -0.2022 | 0.1414 | 0.0092 | 1 |
| LEVERAGE | 0.0276 | 0.0074 | -0.1515 | 0.2309 | 0.0736 | -0.0743 |

**Table 3:** Fixed effect

| Variable | Coef. | Std. Err. | T- value | P- value |
|---|---|---|---|---|
| OPEFF | 79.46803 | 197.92850 | 0.40000 | 0.68900 |
| ION | 965.44210 | 1600.57500 | 0.60000 | 0.54800 |
| AGE | 39.06117 | 81.88065 | 0.48000 | 0.63500 |
| SIZE | 689.23550 | 566.22650 | 1.22000 | 0.22700 |
| LEVERAGE | 154.61610 | 303.27190 | 0.51000 | 0.61200 |
| COD | -17183.83000 | 10551.65000 | -1.63000 | 0.10700 |
| R- SQUARE | 0.00060 | | | |
| No of observation | 104.00000 | | | |
| F-STATS | 2.89000 | | | |
| P- Value of F- stat | 0.00060 | | | |

**Table 4:** Two-step system dynamic panel regression

| Variables | Coef. | Std. Err. | T-Value | P-Value |
|---|---|---|---|---|
| L1. | -0.1272 | 0.0000 | 3985.6500 | 0.0000 |
| OPEFF | 37.4756 | 7.2144 | 5.1900 | 0.0000 |
| ION | -15.2897 | 9.4376 | -1.6200 | 0.1050 |
| AGE | 6.1199 | 0.2636 | 23.2200 | 0.0000 |
| SIZE | 38.9825 | 2.0990 | 18.5700 | 0.0000 |
| LEVERAGE | -3.1248 | 4.9962 | -0.6300 | 0.5320 |
| COD | -939.8421 | 55.1392 | -17.0400 | 0.0000 |

increases. The effect of size on the cost of debts is significantly positive if the operational efficiency increases the cost of debt increases. The effect of leveraging on the cost of debt is significantly positive if the operational efficiency increases, and the cost of debt increases.

## 5. Conclusion

The analysis of how operational efficiency and institutional ownership influence the cost of debts that the sugar and food industries of Pakistan have gone through since 2009 gives us great insights as corporate managers and policymakers. Using a fixed effect model and the GMM treatment, our research article contributes to understanding the nature of the relationship between these variables and the cost of debts, which has notable significance in terms of policy formulation in corporations (Hussain et al., 2021).

A significant result of our research study is that there is a heavily favorable impact on operational efficiency on the cost of debt. We noted that there is a tendency for the price of debt to rise with improvement in the efficiency of operations. This means that the more operationally efficient firms face a higher-grade premium cost of borrowing funds, and it could be because there is a high perceived credit value and mitigation of risks.

The other important finding is associated with the influence of institutional ownership on the cost of debt. Our analysis indicates a positive correlation between institutional ownership and debt cost. This implies that firms that have a greater measure of institutional ownership are more likely to access their funds at higher rates of borrowing. Such findings can guide policymakers in making their decisions and strategizing on how to cope with the expenses of debts efficiently. Additionally, we find that age and size are also hugely influential in their impacts on the cost of debts, as there is a rise in the efficiency of an operation. There was a positive correlation between the age of the firm and the cost of debt, whereby the age of the firm would increase the cost of borrowing as firms tried to ensure efficiency in their operations. Likewise, as corporations expand and enlarge to have greater borrowing power, higher borrowing costs may occur. Also, we found that the coefficients of the leverage and the cost of debt were positively associated with increasing operational efficiencies. This connotes that the firms having a proximate amount of leverage can incur an increment in the cost of borrowing during the course of enhancing efficiency in operations. Such insight would help the managers to critically assess their leverage positions and prepare alternative financing options that can be used to avert the possible implications of affecting the cost of debts. The analysis of these variables can be given a specific context since the companies of our study are based in Pakistan. Nevertheless, future authors can improve this study by analyzing the information of other countries and comparing them with different countries in order to understand better how the efficiency of operation is related to the owning institution and the cost of debts. Furthermore, it can be seen that the time parameter used can be extended to include a longer extent, which is 2009-2021, and therefore, this shall provide stronger and more detailed findings, which the varied researchers can use to find out long-term trends and the design of the variables under consideration.

To sum up, the research findings help us add to the literature as they reveal the profound influence of operational efficiency and institutional ownership on the cost of debt in both the sugar and food sectors of Pakistan. The identified positive associations between these variables can be of great significance to corporate managers and policymakers in developing strategies associated with debt management. In addition, the results of our work open perspectives in further research activities and invite researchers to continue work on the determination of these relationships in other countries and during a longer (extended) period of time to obtain a more holistic picture of the topic.

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