# The Effect of Profitability and Leverage on Financial Distress in The Tourism and Recreation Sector Listed on Indonesia Stock Exchange (IDX) in 2018-2022

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**Abstract.** The tourism and recreation industry sector is one of the top 5 largest foreign exchange earners for Indonesia. However, there was a contraction in economic value of this sector by 56% in 2020. This study aims to analyze and determine the effect of profitability and leverage on financial distress in tourism and recreation companies listed on the IDX in 2018-2022. The sample in this study was determined by the purposive sampling method, and the samples are 20 companies. The analysis methods used are descriptive analysis, multicollinearity test, heteroscedasticity test, logistic regression analysis, the omnibus test model of coefficients, McFadden's R Square, and ROC Curve. The results of this study found that there is a negative and significant effect of profitability on financial distress. Negative and no significant effect of leverage on financial distress. The simultaneous test shows a significant effect on financial distress. In this model, financial distress can be explained by 49.9% of independent variables. This shows profitability can be an appropriate predictor to indicate financial distress.

**Keywords:** Financial distress, Profitability, Leverage.

## 1. Introduction

The tourism and recreation sector has been one of the top 5 largest foreign exchange contributors for Indonesia since 2015, with a total foreign exchange of around Rp169 trillion [1]. Indonesia is among the top 10 countries that have a fast-growing and increasing tourism sector performance over the past 7 years [2].

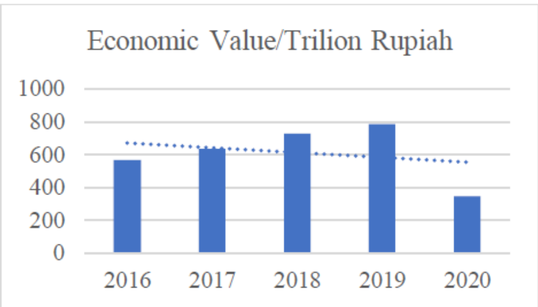


**Figure 1.** Economic value of tourism and recreation sector

ICONIC-RS 2024, October 03, Surakarta, Indonesia

DOI 10.4108/eai.3-10-2024.2358764

Figure 1 shows the decline of economic value from 2019 of 786.3T to 346T in 2020 in the tourism and recreation sector in Indonesia after starting to experience a fairly stable increase from 2016.

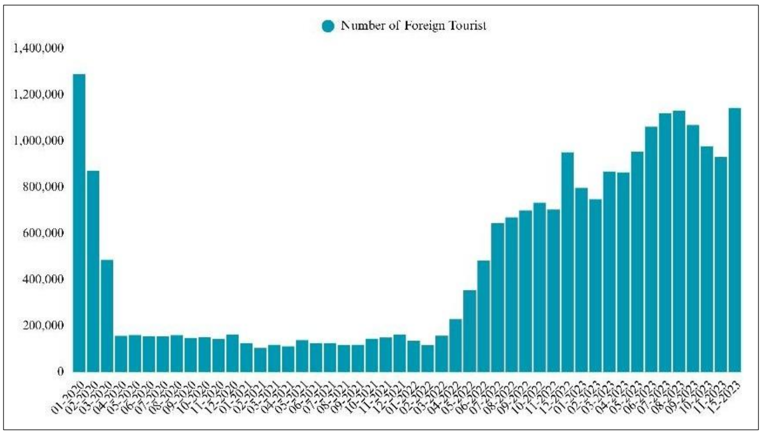


**Figure 2.** Foreign tourist arrivals

The decline in economic value in this sector is known due to a decrease in the number of foreign tourists coming to Indonesia in 2020, as shown in figure 2. This decline was caused by the covid-19 pandemic that spread around the world and had an impact on limiting tourism activities, thus affecting the number of foreign tourists, which is one of the factors that provide considerable income and foreign exchange in Indonesia [3]. It is known that the total number of foreign tourists coming to Indonesia in 2020 is only around 25% of the number of foreign tourists coming to Indonesia in 2019 [4]. The decline in the number of tourists in Indonesia is a serious threat to business actors in the tourism sector. This can threaten the company's performance in generating profits, so if a decrease in purchasing power and poor economic conditions occur for a long time, it can have an impact on reducing the company's financial performance, also known as financial distress.

Financial distress is when a business experiences failure and financial pressure, which will eventually lead to bankruptcy [5]. In this study, the authors will determine the criteria for companies in financial distress with the determinant of interest coverage ratio (ICR). [6] A company is classified as a company in financial distress if depreciation, taxes, earnings before interest, and amortization (EBITDA) are less than interest expense.

There is a decrease in the performance of the industry and companies in generating profits, so the authors want to see the effect of company profitability on financial distress. Profitability in this study will be calculated through return on assets (ROA). The results of previous research show that there is a negative relationship and a significant effect of profitability on financial distress. In the current phenomenon, it can be seen that the tourism and recreation sector companies have experienced a decline in performance as seen from the ability to pay interest expenses, so the authors want to see the effect of leverage on financial distress, which is calculated through the debt-to-equity ratio (DER). The results of previous research show that leverage has no effect on financial distress.

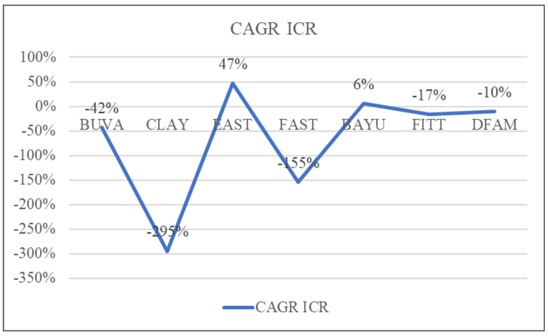


**Figure 3**. CAGR Interest Coverage Ratio (ICR) of Some Tourism and Recreation Sector Companies

This study takes a sample of companies in the tourism and recreation sector that are listed on the Indonesia Stock Exchange from 2018 to 2022. Many companies in the tourism and recreation sector have been affected and have experienced a decline in performance from 2020 to 2022. This can be seen from the Compound Annual Growth Rate (CAGR) Interest Coverage Ratio (ICR) data of several companies in the following tourism sectors whose negative numbers indicate that there is an average annual decrease in the interest coverage ratio (ICR) variable of tourism and recreation sector companies during the 2018-2022 period that is shown in figure 3. The existence of a decrease to a negative ICR value can be classified as a company experiencing financial distress or a decline in financial performance [7]. This is of interest to the author to examine The Effect of Profitability and Leverage on Financial Distress in The Tourism and Recreation Sector Listed on Indonesia Stock Exchange (IDX) in 2018-2022.

## 2. Literature Review

### 2.1 Financial Distress

The condition of a company that is experiencing pressure, decreased performance, and financial failure that has the potential to cause a decline in the company is defined as financial distress [8]. Financial distress can occur because it is influenced by the following factors [9]:

a. Financial Ratios

Financial ratios are a method for analyzing the financial state of a company, business, or individual. Financial indicators themselves are divided into several parts because they are calculated from various aspects.

b. Relative Industry Ratio
Relative industry ratios are comparisons used to compare the financial performance of a company with other companies in the same industry or with its competitors.
c. Macroeconomic Variables
Macroeconomic variables are factors used to analyze the overall economic condition of both regions and countries. Some macroeconomic variables that are often used are inflation rates, unemployment, economic growth, investment, consumption, fiscal and monetary policy, and international trade.
d. Underwriter Reputation and Auditor Reputation
A good underwriter reputation has a positive impact on the company because it increases investor interest and demand for the company and allows the company to obtain appropriate investment support. Some of the criteria for a good underwriter are assessed based on service quality, reliability, track record, transaction success, and relationships.

**2.2 Profitability**

Profitability itself describes the capability of a business to generate margins in operational activities based on the policies and decisions taken. Profitability ratios show how the company's operating results are influenced by asset management, debt, and liquidity [10]. The following factors can affect company profitability [11].

a. Capital Structure
Capital structure is the funding composition of a company or the way a company obtains funds to support its business operations and investments. In most cases, a company's capital structure consists of two components: debt and equity.
b. Company Size
Company size is an important number to calculate and display the size of a company. Some metrics that are often used to measure company size include sales, market value, total assets, number of employees, and net income.
c. Sales Growth
Sales growth refers to the sales performance of a company's products from one period to another or from one time to the next through increased sales volume.
d. Working Capital
Working capital is the amount of funding available to a company to carry out its business operations and growth. Working capital for a company covers all current assets and current liabilities.

**2.3 Leverage**

The definition of leverage is a ratio used to calculate how much debt finances the company's assets [12]. There are several factors that can affect leverage [13], namely as follows.

a. Firm size
Firm size is an important number to calculate and display the size of a company. Some metrics commonly used to determine the size of a business include sales, market value, total assets, number of employees, and net income.

b. Growth
   Growth in language means growth. Growth here is to describe the condition of the company through the growth achieved from various aspects such as sales growth, profit growth, market growth, asset growth, and employee growth.
c. Non-debt tax shield
   A Non-debt tax shield, or debt-free tax protection, is a tax break that businesses can receive from the government for certain operational or capital costs without paying debt interest.
d. Profitability
   The ability of a business to generate profits from its business activities through policies and strategies that have been implemented is known as profitability.
e. Fixed asset
   Fixed assets are fixed assets owned by the company with an economic age of more than one year. These assets can be in the form of land, buildings, and vehicles.
f. Business risk
   Business risk is a risk related to the company's business and operational environment that can threaten and affect the company in achieving its goals.
g. Liquidity
   Liquidity describes how well the company can fulfill its debts or overdue debts.

## 2.4 Conceptual Framework and Research Hypothesis

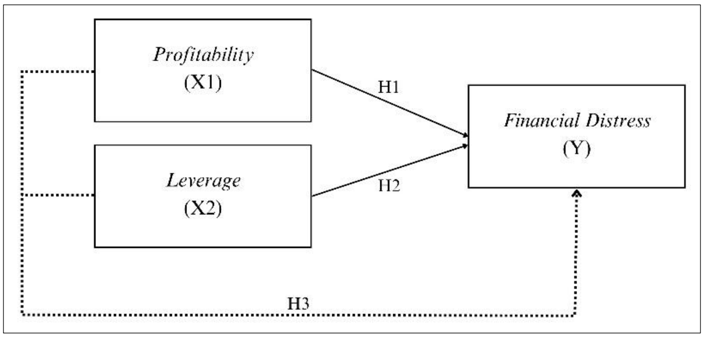


**Figure 4.** Conceptual framework

Hypothesis:
1. The effect of profitability on financial distress.
   Ho1: Profitability has no influence on financial distress. Ho2: Profitability has an influence on financial distress.
2. The effect of leverage on financial distress
   Ho1: Leverage has no influence on financial distress. Ho2: Leverage has an influence

on financial distress.

3. Simultaneous effect of profitability and leverage on financial distress
   Ho1: Profitability and leverage are statistically significant not affecting financial distress.
   Ho2: Profitability and Leverage statistically significantly affect financial distress.

## 3. Methodology

This research uses a quantitative approach with data analysis using logistic regression analysis through STATA MP17 software. The logistic regression analysis equation used is as follows:

$$\ln \frac{\pi}{1-\pi} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 \qquad (1)$$

Where

| | |
|---|---|
| $\pi$ | : probability of occurrence of the desired outcome |
| $\beta_0$ | : intercept |
| $\beta_1$ $\beta_2$ | : regression coefficient for the independent variable $X_1$ and $X_2$ |
| $X_1$ | : Independent variable 1 (Profitability) |
| $X_2$ | : Independent variable 2 (Leverage) |

This study uses a documentation technique for the company's financial statements, with 20 samples of tourism and recreation sector companies. The sample was taken from the total population of tourism and recreation sector companies, totaling 30 companies. The sample was determined through the purposive sampling method with the following criteria:

1. Tourism and recreation sector companies that are listed or listed on the Indonesia Stock Exchange (IDX) in the period 2018 to 2022.
2. Companies that publish complete financial reports for 2018-2022.

**Table 1.** Company Samples

| No | Company Name | Stock Code |
|---|---|---|
| 1 | Anugerah Kagum Karya Utama Tbk. | AKKU |
| 2 | Arthavest Tbk. | ARTA |
| 3 | Bukit Uluwatu Villa Tbk. | BUVA |
| 4 | Citra Putra Realty Tbk. | CLAY |
| 5 | Dafam Property Indonesia Tbk. | DFAM |
| 6 | Eastparc Hotel Tbk. | EAST |
| 7 | Hotel Fitra International Tbk. | FITT |
| 8 | Intikeramik Alamasri Industri Tbk. | IKAI |
| 9 | Jakarta International Hotels & Development Tbk. | JIHD |
| 10 | Jakarta Setiabudi Internasional Tbk. | JSPT |
| 11 | MNC Land Tbk. | KPIG |
| 12 | Sanurhasta Mitra Tbk. | MINA |
| 13 | Andalan Perkasa Abadi Tbk. | NASA |
| 14 | Pembangunan Graha Lestari Indah Tbk. | PGLI |
| 15 | Pudjiadi & Sons Tbk. | PNSE |
| 16 | Red Planet Indonesia Tbk. | PSKT |
| 17 | Jaya Sukses Makmur Sentosa Tbk. | RISE |
| 18 | Hotel Sahid Jaya International Tbk. | SHID |
| 19 | Satria Mega Kencana Tbk. | SOTS |
| 20 | Bayu Buana Tbk. | BAYU |

# 4. Result and Discussion

## 4.1 Result

### Descriptive Statistic

Descriptive statistical analysis shows the mean, standard deviation, minimum value, and maximum value of each variable in this study.

**Table 2.** Descriptive statistic analysis

. summarize

| Variable | Obs | Mean | Std. dev. | Min | Max |
|---|---|---|---|---|---|
| No | 100 | 50.5 | 29.01149 | 1 | 100 |
| ICR | 100 | .62 | .4878317 | 0 | 1 |
| ROA | 100 | -.0270639 | .0756035 | -.5223906 | .1086241 |
| DER | 100 | -4.297858 | 60.29327 | -598.4446 | 50.18982 |

The mean of ICR is 0.62, the standard deviation is 0.4878317, the minimum value is 0, and the maximum value is 1. The mean of ROA is -0.270639, standard deviation is 0.0756035, minimum value is -0.5223906, and maximum value of 0.1086241. The mean of DER is -4.29785, the standard deviation is 60.29327, the minimum value is -598.4446, and the maximum value is 50.18982.

### Multicollinearity Test

**Table 3.** Multicollinearity test

. corr ROA DER (obs=100)

| | ROA | DER |
|---|---|---|
| ROA | 1.0000 | |
| DER | 0.0267 | 1.0000 |

The result of the multicollinearity test is with corr value 0.0267 <0.90, indicating that all variables do not experience multicollinearity or there is no correlation between the independent variables and the dependent variable in the tourism and recreation sector company data sampled in the study.

### Heteroscedasticity Test

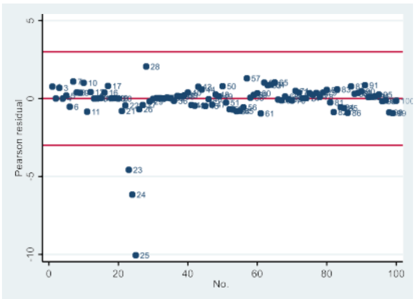

**Figure 5.** Scatterplot of outliers

The result of the heteroscedasticity test shows there are outliers or residuals in the variables of this research because the value of the data spread above the point 3. Therefore, researchers will conduct robust regression as a step to reduce the effect of outlier or residual data contained in the sample.

### Logistic Regression Analysis

Logistic regression output with coefficient values as follows:

**Table 4.** Logistic Regression Analysis

| ICR | Coefficient | Robust std. err. | z | P>\|z\| | [95% conf. | interval] |
|---|---|---|---|---|---|---|
| ROA | -69.3401 | 22.67166 | -3.06 | 0.002 | -113.7757 | -24.90446 |
| DER | -.0436863 | .0687238 | -0.64 | 0.525 | -.1783825 | .0910099 |
| _cons | -.0689795 | .2649383 | -0.26 | 0.795 | -.5882489 | .4502899 |

Note: 0 failures and 2 successes completely determined.

$$\ln \frac{\pi}{1-\pi} = -0{,}0689795 - 69{,}3401X_1 - 0{,}0436863X_2$$

The results of this study are:

1. The profitability variable obtained a coefficient value of -69.3401 with a significance level of 0.002 or less than alpha of 0.05. So that profitability has a significant effect on financial distress with a negative direction.
2. The leverage variable, which obtained a coefficient value of -0.0436863 with a significance level of 0.525 or greater than alpha 0.05. So that Leverage has no significant effect on financial distress with negative direction.

Logistic regression output with odds ratio values as follows:

**Table 5.** Logistic regression analysis

| ICR | Odds ratio | Robust std. err. | z | P>\|z\| | [95% conf. | interval] |
|---|---|---|---|---|---|---|
| ROA | 7.69e-31 | 1.74e-29 | -3.06 | 0.002 | 3.87e-50 | 1.53e-11 |
| DER | .9572542 | .0657862 | -0.64 | 0.525 | .8366224 | 1.09528 |
| _cons | .9333458 | .247279 | -0.26 | 0.795 | .5552988 | 1.568767 |

Note: **_cons** estimates baseline odds.
Note: 0 failures and 2 successes completely determined.

The results can be interpreted as follows:

1. Profitability has a significance level of 0.002 and is smaller than alpha (0.05) with a negative direction. This means that profitability, or in this study represented by ROA, is significant in explaining financial distress conditions in tourism and recreation sector companies. Having an odds ratio of 7.69 indicates that companies that have a positive ROA value will avoid financial distress conditions 7.69 times more than companies that have a negative ROA value.
2. Leverage or DER which is an indicator in this study, is not significant to financial distress with a significance level of 0.525> 0.05.

**Omnibus Test Model of Coefficients**

**Table 6.** Omnibus test model of coefficients

| | |
|---|---|
| LR chi2 (2) | 66.25 |
| Prob > chi2 | 0.0000 |

The omnibus test conducted on Stata resulted in a prob.chi-square value of the sample of tourism and recreation sector companies of 0.0000, which is smaller than alpha 0.05. This means that in this study the two independent variables, or at least one independent variable have a statistically significant effect on the dependent variable.

**Pseudo R Square or McFadden’s R2**

**Table 7.** McFadden's R2

| Pseudo R2 McFadden | |
|---|---|
| McFadden's R2 | 0.499 |

The R Square value with the McFadden method is 0.499. This indicates that in this study the financial distress variable can be explained by the independent variable of 0.499 or 49.9%.

**ROC Curve**

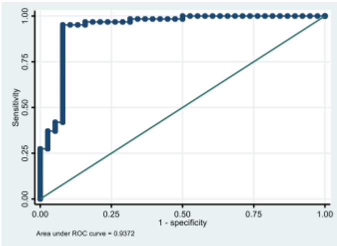


**Figure 6.** ROC curve

The ROC curve, or area under the curve value, of 0.9372 is greater than 0.7, which indicates that this study has a very good level of accuracy or prediction of the dependent variables and independent variables analyzed.

Logistic model for ICR

| Classified | True D | ~D | Total |
|---|---|---|---|
| + | 56 | 3 | 59 |
| - | 6 | 35 | 41 |
| Total | 62 | 38 | 100 |

Classified + if predicted Pr(D) >= .5
True D defined as ICR != 0

| | | |
|---|---|---|
| Sensitivity | Pr( +\| D) | 90.32% |
| Specificity | Pr( -\|~D) | 92.11% |
| Positive predictive value | Pr( D\| +) | 94.92% |
| Negative predictive value | Pr(~D\| -) | 85.37% |
| False + rate for true ~D | Pr( +\|~D) | 7.89% |
| False - rate for true D | Pr( -\| D) | 9.68% |
| False + rate for classified + | Pr(~D\| +) | 5.08% |
| False - rate for classified - | Pr( D\| -) | 14.63% |
| Correctly classified | | 91.00% |

Prediction accuracy is also seen from the accuracy table with results of 91%. This means that this study has used a model that matches the data because it has a high accuracy value.

**4.2 Discussion**

**The Effect of Profitability on Financial Distress**

The profitability variable obtained a coefficient value of -69.3401 with a significance level of 0.002 or less than alpha of 0.05 (5%). This means that profitability has a significant effect on financial distress with a negative direction.

The high profitability of a company illustrates that the company has a good ability to benefit from managing its assets and operating costs. In this study with the object of tourism and recreation sector companies in the period 2018 - 2022 experiencing fluctuating ROA conditions in almost all companies. The results of this study also state that it is valid that there are 56 out of a total of 100 company observations that are experiencing financial distress. This is because the ROA value tends to be negative, where company profits continue to decline due to pandemic conditions. The pandemic itself greatly affects tourism and recreation sector companies in Indonesia because of the restriction policy which has resulted in a decrease in the number of tourists so that tourism and recreation sector companies in Indonesia have decreased profits and have an impact on reducing the company's performance or ability to generate profits with the same or even greater operating costs. Therefore, in this study the effect of profitability on financial distress has a significant effect with a negative direction because it is in line with the focus of this study to see companies that are experiencing financial distress and ROA data from a significant sample shows that most companies are experiencing financial distress.

The results of this study are in line with the previous research which says that high ROA indicates that the company's profitability is good where the company is able to generate profits and avoid financial distress [14].

**The Effect of Leverage on Financial Distress**

The leverage variable which has a coefficient value of -0.0436863 with a significance level of 0.525 or greater than alpha 0.05 (5%). This means that leverage has no significant effect on financial distress with a negative direction.

The greater the DER value means that the company uses debt as capital for company operations. As happened in this research sample where the comparison of total debt and total equity of tourism and recreation sector companies shows that the majority of companies still rely on equity as their capital. Related to this phenomenon, it can also be interpreted that the value of DER in tourism and recreation sector companies is stable amid fluctuating industry growth conditions. Another factor that influences the results of this study is that if the company can manage assets effectively and efficiently and is able to pay its liabilities, the company can avoid financial distress and the company has total assets that are greater than total debt so that it can be a solution for the company in overcoming debt. The research sample shows that the total assets of companies in the tourism and recreation sector are still greater than the total debt owed. This is also the cause of the insignificant effect of DER on financial distress in this study. Because companies in this sector have total assets that are greater than total debt, the company can overcome a company crisis caused by debt through its assets.

The results of this study are in line with the previous research which says that DER, which is an indicator of the leverage variable, has no effect and cannot be used as an appropriate predictor to assess financial distress conditions because companies can choose sources of funds with little financial risk and/or overcome debt through the total assets owned by the company [15].

## 5. Conclusion and Recommendation

### 5.1 Conclusion

Based on the results of the research that has been carried out, the following are the conclusions of the research:

1. Profitability has a significant negative impact on financial hardship, indicating that more profitable companies are less likely to face financial trouble. The study shows that the average return on assets (ROA) for the sample has declined to a negative value, suggesting potential financial difficulties.
2. Leverage has little impact on financial suffering, as DER is not a reliable predictor of financial issues in the tourism and recreation sectors. Companies can avoid financial hardship by using their own assets or borrowing from external sources to pay off debts.
3. The independent variables simultaneously affect the dependent variable or there is at least one independent variable that significantly affects the dependent variable.

**5.2 Limitation of Research**

This study considers two independent variable, therefore the future research should expand by including additional variables. The research focuses on an industrial sector with limited impact on the Indonesian economy, and it is suggested that future studies explore larger sectors in Indonesia.

**5.3 Recommendation**

1. The future studies are recommended to investigate and develop others variable that influence the financial distress such as current ratio, quick ratio, profit margin, return on equity ratio (ROE), and cash flow to debt ratio. It may find others financial distress problem and question that is experienced by companies in the tourism and recreation Sector in Indonesia
2. The Manager should focus and concern to maintain stability and strengthen their financial position by improving financial performance, optimizing costs and capital, and implementing innovations to ensure growth in all economic conditions and industry competition.
3. The Investors should be able to read and analyze the company's financial statements to determine the financial condition or financial distress of a company to reduce the risk of failure especially through the financial ratio of profitability.

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