***Case study***

# The Effect of Profitability and Leverage on LQ-45 Indexed Firm Value Before and During the Pandemic


**ABSTRACT**

*The covid-19 pandemic has had an economic impact, including companies listed on the stock exchange. The purpose of this research is to obtain empirical evidence whether profitability and leverage have a positive effect before and during the covid-19 pandemic. The population of this study are companies listed on the LQ45 index. This study is a quantitative study with 90 observational data with an observation period of 2018 to 2021. The results showed that before the pandemic, profitability had a positive effect on firm value, leverage and firm size had no effect on firm value. During the pandemic, profitability and leverage have a positive effect on firm value, but size has no effect on firm value. In an additional test using the Paired Sample T-Test method, it showed that there was a significant average decrease in the size of company before and during the pandemic.*



*Keywords: Profitability; Leverage; Firm Value; LQ45.*


## 1. INTRODUCTION

The capital market in Indonesia experienced significant instability after the emergence of the Covid-19 pandemic. Indonesia is one of many countries that experienced a drastic decline in the capital market sector. The decline in the JCI from the 6300 area to the 3900 area within three months shows that the Covid-19 pandemic has had a major impact on capital market activity in Indonesia. According to the Minister of Finance published on the Kompas.com portal in 2020, the value of the shares of public companies most affected is the tourism, transportation, mining, finance, and automotive sectors.

In the Indonesian capital market, there is an LQ-45 index which contains blue chip companies with large liquidity and market capitalization and can describe the condition of the stock market in Indonesia. In 2019, the LQ-45 index performed stable, but in 2020 of the 45 LQ-45 indexed companies, 31 of them experienced a net profit decline of 41.4%. This indicates that Covid-19 even has an impact on companies labeled blue chip.

The Covid-19 pandemic has brought companies into uncertain conditions in achieving their business goals, both long-term goals and short-term goals. The company's short-term goal is to maximize profit receipts, and the company's long-term goal is to increase the value of the company which is reflected in the company's financial statements. Good corporate value becomes important as a long-term goal of the company, so that every decision making and company policy should consider various aspects.

In looking at the value of the company, investors cannot be separated from company information in the form of financial statements issued annually. Some companies do not succeed in increasing the value of the company, which is due to the influence of several factors. One of them is that the size of the company is considered capable of influencing the value of the company, because the larger the size or scale of the company, the easier it will be for companies to obtain sources of funding, both internal and external. The value of the company shows an increase in the prosperity of shareholders if the share price continues to increase.

The value of the company can be influenced by several factors, one of which is the company's profitability, namely the company's ability to generate profits. Companies with good financial performance will get positive sentiment from investors so that it will increase the value of the company. Another factor that can affect the value of the company is the level of leverage, which is a ratio that describes the company's ability to pay off its debts. Leverage is also considered as the company's ability to gain trust in obtaining funding. The research variable whose position as the control variable is company size. The value of the company can also be influenced by the company size or the size of the company itself. Companies that have a high company size are considered to be better able to obtain various sources of funding. The control variable is a controlled variable so that the influence of the independent variable on the dependent variable is not influenced by external factors that are not examined. The function of the control variable is to prevent bias calculation results. Control variables are variables to complete or control the causal relationship so that it is better to get a complete and better empirical model.

## 2. LITERATURE REVIEW AND HYPOTHESES

Kasmir (2012) defines company profitability as the effectiveness of management in managing its wealth to generate profits or profits. The greater the level of profitability of the company, it indicates that the company has a good ability to generate profits so that it will attract investors to invest. Previous research conducted by Awulle et al. (2018), Mufidah & Purnamasari (2018), Musabihan & Purnawati (2018), Raningsih & Artini (2018), Akbar & Irham (2020), Astuti & Yadnya (2019), Dewi & Abundanti (2019), Chabachib et al. (2019), Antoro et al. (2020), Pattiruhu & Paais (2020), Indrayani et al. (2021), and Jihadi et al. (2021) found that profitability had a positive effect on firm value. So that the first hypothesis in this study can be written as follows:

H1: Profitability has a positive effect on company value before and during the covid-19 pandemic

Company funding can be obtained or obtained from various sources, namely internal sources and external sources. Internal sources come from retained earnings and the company's external sources come from debt and securities offering activities. Good leverage shows a good company's ability to fulfill financial obligations (Pratamana and Wiksuana, 2016). Previous research conducted by Setiadewi & Purbawangsa (2012), Cheng & Tzeng (2011), Ibhagui & Olokoyo (2018), Octaviany et al. (2019), Pattiruhu & Paais (2020), Dang et al. (2020), and Jihadi et al. (2021) which shows that leverage has a positive effect on firm value. So that the second hypothesis in this study can be written as follows:

Based on the descriptions and hypotheses that have been described, the research framework can be described as follows:

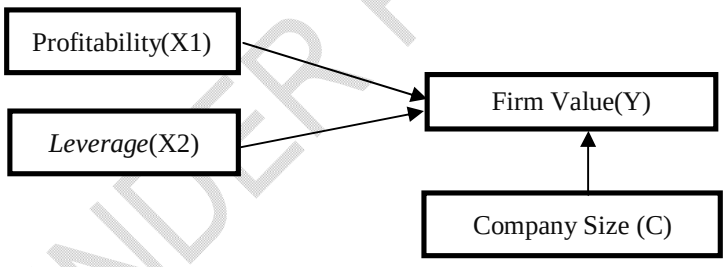


**Fig. 1. Research framework**
Source: Developed in this study (2022)

## 3. METHODOLOOGY

This research is a qualitative research. The data collected is company data that is incorporated in the LQ45 Index during the 2018-2021 period. The sampling technique is a purposive sampling technique where there are criteria in the selection of samples. In selecting the sample in this study, there are criteria, namely the company is permanently registered as an LQ-45 indexed issuer in 2018-2021 and is consistent in publishing financial statements and annual reports consistently and contains the information needed in this study.

The data is obtained secondary from the financial statements issued by each company through the official website of each company. LQ45 indexed companies are blue chip stocks, namely stocks with the largest market capitalization and are the

main drivers of the JCI direction. After purposive sampling was done, there were 30 companies registered as LQ-45 indexed companies, so that in this study there were 120 financial statement data used.

Profitability in this study uses the ROA ratio or Return on Assets, this ratio shows the effectiveness of management in generating net income using its assets. Kasmir (2012) uses the ROA formula as follows:

ROA=(Net Profit)/(Total Assets)

Irham (2015) describes that leverage describes the extent to which a company is run or financed using debt from external parties. Leverage also shows the company's ability to obtain funding in the form of debt or other obligations. Leverage is proxied by Debt Equity Ratio (DER) with the formula:

DER=(Total Liabilities)/(Total Capital)

Firm value reflects the extent to which investors' perceptions of the company. A good company value indicates that the company is performing well as well. The value of the company is also considered important so that every decision making and company policy should be considered carefully. Measurement of firm value using the ratio Price-to-Book Value (PBV). PBV is a ratio that compares the stock price with the book value of the stock.

PBV= (Price of Shares per Share)/(Book Value of Shares per Share)

The control variable in this study is firm size, which reflects the size of a company, one of which can be seen from the number of assets owned by the company. The higher the assets owned by a company, the higher the size of the company, and vice versa. Natural logarithms are used in measuring this ratio to harmonize the data and avoid extreme differences in research data. In measuring company size, the following formula is used:

SZE=Ln (Total Assets)

Multiple linear regression analysis technique is used in this study with a model that can be written as follows:

$$PBV = \alpha + ROA + LVR + SZE + e$$

Where:
$\alpha$ = Constant
PBV = Price to Book Ratio
ROA = Return on Assets
LVR = Leverage
SZE = Size
e = error term

## 4. RESULT AND DISCUSSION

Table 1 showing Regression Results in Samples Before the Covid-19 Pandemic (2018-2019)

**Table 1. Results of Regression 1 (Before the Pandemic)**

| $PBV = \alpha + \beta ROA + \beta DER + BSZE + e$ | | | | |
|---|---|---|---|---|
| **Independent Variabele** | **Expectation** | **Coeficient** | **t** | **Sig** |
| Coeficient | | -8,755 | | |
| ROA | + | 0,5819 | 5,1009 | 0,000 |
| DER | + | 0,0288 | 0,2076 | 0,836 |
| SZE | + | 0,0305 | 0,2193 | 0,827 |
| Adj. R Square | | 0,288 | | |
| Prob. (F Test) | | 0,000 | | |
| N | | 60 | | |

| | |
|---|---|
| *Sig. 5%* | |

Source: Research Data, 2022.

The results of the coefficient of determination test in the sample before the Covid-19 pandemic, it is known that the Adjusted R Square value is 0.288 or 28.8%, which means that the variability of the PBV variable can be explained by the independent variables ROA, LVR, and SZE of 28.8% while 71, 2% of the dependent variable is influenced by external factors or other variables not examined in this research model.

F test on samples before the Covid-19 pandemic, it appears that the value of sig. of 0.000. sig value. of 0.000 is smaller than the significant level used of 0.05, thus it can be concluded that the multiple linear regression model in this study is fit so that it is feasible to carry out the next stage of testing.

T test on samples before the Covid-19 pandemic, it is known that the ROA variable has a t value of 5,1009 with a sig level. of 0.00 < 0.05 so it can be concluded that the profitability variable proxied by ROA has a significant and positive direction on firm value, these results support the first hypothesis (H1) in this study. The LVR variable has a t value of 0.2076 and a sig value. of 0.836 > 0.05 so it can be concluded that the leverage variable (LVR) has no significant effect on firm value, so the second hypothesis (H2) in the sample before the Covid-19 pandemic in this study is not supported. Firm size variable (SZE) has a t value of 0.2193 with a sig value. of 0.827 > 0.05, it can be concluded that the firm size variable has no significant effect on firm value. Based on the results above, the regression model is obtained as follows:

$$PBV = -8.755 + 0.5819ROA + 0.0288LVR + 0.0305SZE$$

The equation above shows a constant value of -8.755, which means that if the independent variable is fixed, then the value of the dependent variable is -8.755, and it can be concluded that if profitability increases by 1 unit, the firm value will increase by 0.5819. If the value of leverage increases by 1 unit, then the value of the company will increase by 0.0288, and if the variable size of the company increases by 1 unit, then the value of the company will increase by 0.0305 assuming cateris paribus.

Table 2 shows the Regression Results in the Sample During the Covid-19 Pandemic (2020-2021)

**Table 2. Results of Regression 2 (During the Pandemic)**

$$PBV = \alpha + \beta ROA + \beta DER + BSZE + e$$

| Independent Variabele | Expectation | Coeficient | t | Sig |
|---|---|---|---|---|
| Coeficient | | 8,164 | | |
| ROA | + | 0,7184 | 7,3610 | 0,000 |
| DER | + | 0,2072 | 2,0296 | 0,047 |
| SZE | + | -0,1348 | -1,3425 | 0,898 |
| Adj. R Square | | 0,466 | | |
| Prob. (F Test) | | 0,000 | | |
| N | | 60 | | |
| *Sig. 5%* | | | | |

Source: Research Data, 2022.

The results of the coefficient of determination test on the sample during the Covid-19 pandemic, it can be seen that the Adjusted R Square value is 0.466 or 46.6% which means that the variability of the firm value variable (PBV) can be explained by the independent variables ROA, LVR, and SZE of 46 ,6% while 53.4% the dependent variable is influenced by external factors or other variables not examined in this research model.

The F test on the sample during the Covid-19 pandemic shows that the significance value is 0.000. sig value. of 0.000 is smaller than the significant level used of 0.05, thus it can be concluded that the multiple linear regression model in this study is fit so that it is feasible to carry out the next stage of testing.

T test on samples during the Covid-19 pandemic, it is known that the ROA variable has a t value of 7,361 with a sig level. of 0.00 < 0.05 so it can be concluded that the profitability variable proxied by ROA has a significant and positive direction on firm value, these results support the first hypothesis (H1) in this study. The LVR variable has a t value of 2.0296 and a sig value. of 0.0047 <0.05 so it can be concluded that the leverage variable (LVR) has a significant effect on firm value, so the second hypothesis (H2) for the sample during the Covid-19 pandemic in this study is supported. Firm size variable (SZE) has a t value of -1.3425 with a sig value. of 0.898, it can be concluded that the firm size variable has no significant effect on firm value. Based on the results above, the regression model is obtained as follows:

PBV = 8.164 + 0.7184ROA + 0.2072LVR + (0.1348SZE)

The equation above shows a constant value of 8.164, which means that if the independent variable is fixed, then the value of the dependent variable is 8.164 and it can be concluded that if profitability increases by 1 unit, the firm value will increase by 0.7184. If the value of leverage increases by 1 unit, then the value of the company will increase by 0.2072, and if the variable size of the company increases by 1 unit, then the value of the company will decrease by 0.1348 assuming cateris paribus.

Table 3 is the result of the Paired Sample T-Test as an addition to this study, which aims to determine the difference between the average profitability, leverage, firm size, and LQ45 indexed firm value in 2018-2021.

**Table 3. Results of Paired Sample T-Test**

| | | Paired Differences | | t | Sig. |
|---|---|---|---|---|---|
| | | Mean | Std. Deviation | | |
| Pair 1 | ROA - ROA2 | 0,0253 | 0,0893 | 2,193 | 0,032 |
| Pair 2 | DER - DER2 | -0,4977 | 1,7879 | -2,156 | 0,035 |
| Pair 3 | SZE - SZE2 | 0,4712 | 2,7537 | 1,325 | 0,190 |
| Pair 4 | PBV - PBV2 | 1,0945 | 3,6927 | 2,296 | 0,025 |

Source: Research Data, 2022.

From Table 3 it can be seen that the average value of ROA has decreased by 0.0253, the average value of DER has increased by 0.4977, the average value of SZE has decreased by 0.4712, and the PBV variable has decreased by 1, 0945.

Despite the changes, the statistical results show that only the Profitability, Leverage, and Firm Value variables have a significance of less than 0.05, so it can be concluded that the Profitability, Leverage, and Firm Value variables experience a significant average change, while the Size variable changes significantly. The company did not experience significant changes before and during the covid-19 pandemic.

## 5. CONCLUSIONS

This study aims to prove the effect of profitability and leverage on firm value before and during the COVID-19 pandemic with firm size as a control variable. The results showed that before the covid-19 pandemic, profitability as proxied by ROA had a positive and significant effect on firm value as proxied by price to book value, leverage variable proxied by debt to equity ratio and firm size as proxied by natural logarithm of total assets proved to have no significant effect on the value of the LQ45 indexed company. The results showed that during the covid-19 pandemic, profitability as proxied by ROA and leverage variable proxied by debt to equity ratio had a positive and significant effect on firm value as proxied by price to book value, but firm size proved to have no significant effect on firm value. LQ45 indexed company value. In an additional test using the Paired Sample T Test method, the ROA, SZE and PBV variables experienced a negative change in the average value and the LVR variable experienced a positive increase in the average value. However, statistically it shows that the ROA, LVR, PBV variables experienced significant changes, while in this study the SZE variable did not experience a significant difference or average change before and during the COVID-19 pandemic.

This study has not captured the effect of other variables that have the possibility of influencing firm value such as dividend policy, capital structure, and CSR disclosure by the company. This research is still limited to companies with good performance indexed on LQ-45 and have not explored the affected sectors since the COVID-19 pandemic.

Future research is expected to be able to use other variables that can affect the value of the company such as dividend policy, capital structure, and CSR disclosure by the company. Further research is also expected to expand the sample and use samples that are likely to have an effect due to the Covid-19 pandemic, such as in the tourism, transportation, and health and telecommunications sectors.

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