Syntax Literate: Jurnal Ilmiah Indonesia p–ISSN: 2541-0849
e-ISSN: 2548-1398
Vol. 7, No. 09, September 2022

THE IMPACT OF INVESTOR SENTIMENT, CREDIT RATING, PROFITABILITY, AND LEVERAGE ON STOCK RETURN LQ45 PERIOD FROM 2017 TO 2021

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Abstract

The purpose of this research is to identify the effect of investor sentiment, credit ratings, profitability, and leverage on stock returns. This study uses panel data analysis using the Panel Least Square method which is carried out on financial data on 30 companies that are members of the LQ45 composite index during the period 2017 to 2021. In this study, stock returns are the dependent variable, investor sentiment, credit ratings, profitability, and leverage become independent variables, and firm size, book to market ratio, also COVID19 become control variables. The study's findings indicate that the profitability variable has a significant effect on stock returns and other independent variables have no significant effect on stock returns. This study aims to assist investors in identifying and analyzing the variables that influence the company so that investors gain stock returns in the future.

Keywords: stock return, investor sentiment, credit rating, profitability, leverage

Introduction

The World Health Organization (WHO) declared coronavirus disease (COVID19) a global pandemic in March 2020. The announcement caused many countries to implement strict quarantine policies. This policy has an impact on economic activity in countries affected by COVID-19 and the world economy. The strict quarantine has had a negative impact on all economic sectors, including the financial market which resulted in a severe economic crisis (Smales, 2021). Indonesia is one of the countries that is being tested with an unprecedented crisis (Kemenkeu, 2020).

How to cite:	Drastya Amalia, Dewi Hanggraeni (2022) The Impact of Investor Sentiment, Credit Rating, Profitability, and Leverage on Stock Return LQ45 Period from 2017 to 2021, (7) 09. Doi: 10.36418/syntax-literate.v7i9.13520
E-ISSN:	2548-1398
Published by:	Ridwan Institute

Figure 1. Composite Stock Price Index for the Period January 2017-December 2021
Source: Yahoo Finance

The Financial Services Authority (OJK) stated that the Jakarta Composite Index (IHSG) was significantly impacted by COVID19. The graph shows that within three months, namely from the beginning of 2020 to March 20 2020, the JCI fell from 6,300 to 3,900 (BI, 2022). COVID-19 has brought a shift in revenue for most industries that were closed or restricted during the quarantine period. The stock market crash in March 2020 did not happen because of a weak economic foundation but rather by a limit on consumer spending, which forced businesses to lower their earnings expectations. Due to this, the market reevaluates the value of the company, which results in a large drop in share prices (Mazur, Dang, & Vega, 2021). Research based on data from the US revealed that the value of the equity market decreased in response to pandemics like COVID-19 and SARS (Alfaro, Chari, Greenland, & Schott, 2020). This indicates that the downturn in the stock market index did not just happen in Indonesia. In addition to quarantine regulations that restricted economic activity, the stock market's considerable decrease was also brought on by shifts in investor mood (Chundakkadan & Nedumparambil, 2021). According to Brown and Cliff's (2001) study, investor sentiment and stock market performance are highly correlated. That sentiment contributes to predictions of future stock market returns.

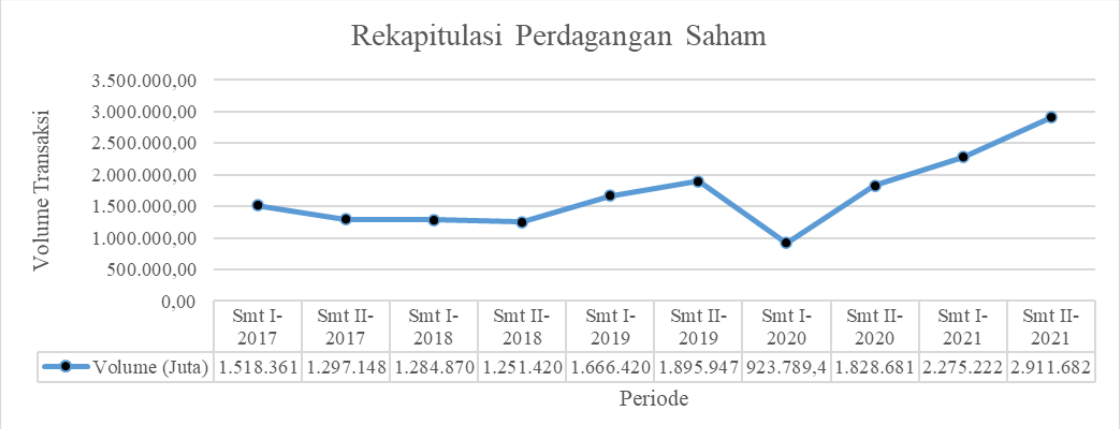

Figure 2. Transaction Volume per Semester in the Capital Market 2017 -2021 Period
Source: Researcher summary from OJK database

Based on graphic data obtained from statistical data reports per semester published by the Financial Services Authority (OJK), the volume of stock trading transactions fluctuated from 2017-2021. Transaction volume tends to be steady from Semester I of 2017 to Semester II of 2018, which then increases from Semester I of 2019 to Semester II of 2019. When COVID19 started to enter Indonesia, transaction volume decreased significantly to 923,789 million in Semester I – 2020, which was a decrease of 51.27% compared to the previous period. After the decrease in transaction volume, transaction volume has again increased from Semester I – 2020 to Semester II – 2021. Investors were hesitant to acquire and sell shares due to the declining state of the capital market when COVID19 entered Indonesia. Investors were also speculating on capital market stock returns due to lower corporate productivity. Therefore, it is necessary to conduct research on how investor mood affected stock returns both prior to and during COVID19 entered Indonesia.

Investors anticipate larger profits from high-risk investments based on the empirical basis. Companies with poor credit ratings are a risky investment for investors, therefore investors hope to get a higher return to compensate up for that risk. Investors tend to invest in speculative stocks because of positive expectations, because investors generally ignore credit ratings as a determinant of firm value and bankruptcy risk (Avramov et al., 2009).

Numerous economic sectors have been negatively impacted by COVID19, which has also had an effect on Indonesia's growth in economy. Most people choose to set limits on their spending and prioritize spending on daily necessities, such as food, medicine and other basic household needs. Research conducted by Mehta (2020) shows that consumer behavior in several countries is very conservatives with their spending and prioritizing shopping for household consumer goods. Changes in consumer behavior caused by COVID19 have a very significant impact on company profitability. Government regulations that restrict businesses, particularly by enforcing work from home (WFH), also have an impact on business productivity.

Basically the goal of every company is to make a profit so that the company can operate under any conditions. High earnings or profits made by the company can have their own advantages for the business, one of which is luring potential investors to invest in the business. Shares are valuable papers that serve as one metric of shareholder profit. Visualization of company finances can be seen through the company's financial health. When a company is in good financial health, it is likely to be in strong business conditions, and when it is not, it can even be an indicator of a company's bankruptcy (Karim et al., 2021).

Financial reports that are released accessible for the public facilitate evaluation of company development. Nvestors examine financial reports containing information about financial performance as they considering whether or not to invest in a firm (Meythi et al., 2011). One of the variables that affects the increase or decrease of stock prices is financial performance. Through financial reports published on the Indonesia Stock Exchange or Yahoo Finance, financial ratios can be analyzed to assess a company's

financial performance. The results of interpreting financial ratios are used as a consideration for decision making in granting credit, purchasing a share, and investing (Rukmana, 2020). According to Robert Ang (1997), there are five categories of financial measures such as profitability ratios, leverage ratios, activity ratios, liquidity ratios, and market ratios. Leverage ratios and profitability will be the primary focus of this study. The leverage ratio indicates the firm's capacity to efficiently utilize fixed-load assets or funds (debt) in order to achieve the optimum feasible level of business income. The profitability ratio indicates the company's ability to generate profits or an indicator of the efficiency of the company management. Because COVID19 has an effect on falling corporate efficiency, it also has an effect on the condition of the two ratios that collectively make up a company, thus it is essential to study the profitability ratio and leverage ratio.

Investor sentiment

According to research by Ryu, Ryu, and Yang (2019), the primary factor in behavioral finance studies that describes asset price movements and irrational exuberance from the money market is investor sentiments. Investor sentiment is defined as an investor's unsupported belief about future cash flow and investment risk (Baker & Wurgler, 2006). The idea of noise traders (Black, 1986) is where the broad definition of sentiment investors is derived. A number of behavior-based models that attempt to explain how noise traders affect stock prices arise from the theory of noise traders (De Long, 1990; Shleifer; Campbell and Kyle, 1993).

In his writings, Kencana (2019) asserts that domestic and international economic conditions have an impact on investors' decisions to invest. Investors may find it useful to obtain information from a variety of sources, including social conditions, politics, government or central bank policies, and company fundamentals. Historical price and yield information might also have an impact on investor investment decisions. The way that investors respond to specific market circumstances may result in an impact on price changes and return. Depending on the outcome of the investor's rational or illogical analysis, this investor response may be either positive or negative. Investor sentiment is the term for this response.

Credit rating

Rating is a systematic evaluation of a nation's or business's capacity to pay its debts. A company's rating can be compared to that of other companies in order to determine which has greater capacity and which has lesser capabilities. Rating companies are responsible for issuing ratings, and typically, a rating organization needs officially government approval to operate.

Rating is one of the factors that investors consider when selecting whether to invest in a company, according to Manurung (2008). The information provided in the rating will indicate the degree to which a company can rely on investor money to meet its financial responsibilities. Investors generally prefer companies with a high rating over those with

a very low rating. As a result, investors usually demand a larger premium for the bonds of a company with a relatively low rating in order to compensate up for the risks undertaken by investors. The fundamental goal of the rating procedure is to give prospective investors reliable information about the financial performance and commercial position of enterprises that issue bonds (Rahardjo, 2004). The fundamental goal of the rating procedure is to give prospective investors reliable information about the financial performance and commercial position of enterprises that issue bonds (bonds) (Rahardjo, 2004). A corporation called Credit Rating Agency assigns ratings for credit to bond issuers. The credit rating influences the interest rate imposed to the debt and measures creditworthiness and ability to repay. Credit ratings can also be used by businesses to improve their market or brand image.

Profitability

Profitability is an indicator of a company's capacity to turn a profit or the efficiency of its management. The ability to make a profit can be assessed using either the company's own capital or all of the funds that are invested within. If it is known how much profit is used to obtain the profit, investor will be able to regulate the company's profitability as a result of this limitation (Wiagustini, 2010).

According to Brigham and Houston (2014), return on assets (ROA) is the proportion of net income to total assets used to calculate the return on total assets after interest and taxes. The rate of return or profit from managing a company's assets and investments is known as return on assets (ROA). In this study, profitability is measured by return on assets (ROA). The capacity of a company's assets to produce profits is gauged using ROA.

Leverage

Leverage demonstrates a company's ability to efficiently utilise resources with a fixed liability (debt) in order to achieve the highest possible amount of commercial profits (Arrita, 2004). Leverage quantifies how much a firm is supported by debt or the ability of the company to meet both short-term and long-term financial obligations (Wiagustini, 2010). The Debt to Total Asset Ratio (DAR) and the Debt to Equity Ratio (DER) are only two examples of the several types of leverage ratios that are frequently employed. In order to determine how much of a company's assets are financed by debt or how much debt influences asset management, this study uses the Debt to Total Asset Ratio (DAR) as a financial ratio.

Stock Returns Influencing Factors

The findings of a study by Fama and French (1992), The size of the market capitalisation can be used to estimate firm size. The quantity of outstanding shares at the current share price can be used to calculate market capitalization (market value equity). According to the Fama and French Three Factor Model, firm size is a company attribute that can affect the size of stock returns (Fama & French, 1992). In addition, further

research findings by Darusman (2012) indicate that small businesses have the ability to be more robust to economic situations since they work to regulate their businesses' profit growth rates.

The book to market ratio, which measures the difference between share prices on the stock market and their book value, is used in this study to assess how investors perceive about the company (Brigham & Houtson, 2018). The book to market ratio, according to Harahap (2007), compares the book value of a company's shares to the market value on the capital market. The worth of equity as perceived by investors is its market value. An indication that the market values a company significantly less than its book value is a corporation with a book-to-market ratio that is relatively high. The higher the book to market value, the lower the market's appreciation of the company's shares is expected to be.

Hypotesis

Effect of Investor Sentiment on Stock Return

The results of study by Lee, Sung, and Seo (2022) from 2000 to 2015 demonstrate that retail investor sentiment in the form of an imbalance in buying and selling transactions contributes to a future relationship that is adverse to the link between credit risk and excess returns. Positive retail investor sentiment often results in worse stock returns going forward due to higher credit risk.

H1: *Investor sentiment has a significant negative effect on stock return*

Effect of Credit Rating on Stock Return

With a credit risk number of 10 or above, according to study by Lee, Sung, and Seo (2022), there is a negative correlation between credit risk and stock returns. This shows that companies that have speculative stocks with a credit risk value greater than ten represent an anomaly of distress risk that affects individual sentiment.

H2: *Credit rating has a significant negative effect on stock return*

Effect of Profitability on Stock Returns

The outcomes of Nugroho's research from 2020 indicate that the profitability variable (Return on Assets) has beneficial effects on stock returns. A high ROA figure, which enables the company to earn stock returns from the company's assets, indicates strong corporate performance, which causes this beneficial effect.

H3: *Profitability has a significant positive effect on stock return*

Effect of Leverage on Stock Returns

According to study by Yun & Kim (2022) on risk factors, namely the difference between systematic risk and unsystematic risk, systematic risk (book to market ratio, business size, and leverage) has a favorable impact on stock returns.

H4: *Leverage has a positive influence on stock return*

Data source

The study that was conducted was quantitative. Secondary data are the type of information used in this study. The Annual Report collected from the Indonesia Stock Exchange (IDX) and each company's official website serve as the secondary sources of information for this study. A corporation that is listed on the Indonesia Stock Exchange (IDX) contributes to the author's study population. Purposive sampling is used in research sampling. The purposeful sampling approach involves choosing samples based on predetermined standards. The following sample criteria will be applied in the research to be conducted are companies that were listed between 2017 and 2021 on the Indonesia Stock Exchange (IDX), The company has closing stock price data for every 3-month period from 2017 to 2021, the company's equity value is not negative and the company is a part of the composite LQ45 index.

Operational Definitions of Variables and Measurements

Dependent Variable

Stock Return

Stock returns served as the dependent variable in the research that the authors conducted. What is meant by stock return is the return that investors will receive on their stock investment. Capital gain/loss and dividend yield are the two types of stock returns. The following formula (from Hartono, 2010) will be used to determine returns in this study:

$$Stock\ return = \frac{P_t - P_{t-1} + D_t}{P_{t-1}} \quad \text{..... (1)}$$

Information:

P_t = Stock price at the close of the period t

P_{t-1} = Stock price at the close of the period t-1

D_T = Dividends per share in the period t

Independent Variable

Investor Sentiments

In their article, Baker and Wurgler (2007) stated that there are several things that have the potential to become proxies for investor sentiment, one of which is trading volume. Previous research by Maulina Agustya and Faisal (2018) and Feren and Bangun (2019) used trading volume as a proxy for investor sentiment. The trade volume utilized in this analysis is the same as that used in studies by Feren and Bangun (2019) and Faisal (2018). The following formulation is used to calculate trading volume:

$$Trading\ Volume\ (TV) = \frac{The\ number\ of\ shares\ traded}{Number\ of\ Outstanding\ Shares}$$

Credit Rating

Credit rating agencies (credit agencies) are organizations that have a part in providing credit to businesses, governments, and other bond issuers. Through rating activities, a credit rating agency's goal is to provide an unbiased, reliable, and

independent assessment of the credit risk of publicly issued debt securities. The Indonesian Securities Rating Agency (PEFINDO) and Fich Ratings are the top credit rating companies in Indonesia. The official websites of PEFINDO and Fich Ratings allow anyone to access the credit Ratings of the companies that make up LQ45. We obtained the dummy utilized in the study by using the values given in Lee, Sung, & Seo's (2022) study:

Table 1
Credit Ratings Summary

Credit Ratings	Values	Dummy	*Credit Ratings*	Values	Dummy
idAAA	1	1	idBB	12	0
id AA+	2	1	idBB-	13	0
id AA	3	1	idB+	14	0
id AA-	4	1	idB	15	0
idA+	5	1	idB-	16	0
idA	6	1	idCCC+	17	0
idA-	7	1	idCCC	18	0
idBBB+	8	1	idCCC-	19	0
idBBB	9	1	idCC	20	0
idBBB-	10	0	idC	21	0
idBB+	11	0	idD	22	0

Source: Researcher on Microsoft Excel

Companies with credit ratings over idBBB- are given dummy 1, whereas those with credit ratings below idBBB- are given dummy 0, according to study by Lee, Sung, and Seo (2022). The value (VAL) used to process research data is the dummy variable.

Profitability

Return on Assets (ROA), or the ratio, indicates a company's capacity to generate net profit from the sum of its assets or its quantity of invested capital (Gultom et al., 2020). The following is the ROA formula:

$$ROA = \frac{Net\ Income}{Total\ Asset}$$

Leverage

A financial ratio called the debt to total asset ratio (DAR) is used to determine how much of a company's assets are financed by debt and how much the debt has an impact on asset management. Gitman and Zutter (2015) claim that DAR can be expressed as follows:

$$DAR = \frac{Total\ Liabilities}{Total\ Asset}$$

Multiple Linear Regression Model

The regression model that will be employed in the research that the writer will do is as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$$

Information:

Y = The value of the dependent variable (stock return)
X = Independent variable values (TV, VAL, ROA, DAR)
β_0 = Constant
X1 = TV
X2 = VAL
X3 = ROA
X4 = DAR
e = Interfering variable / error

Results and Discussion

The results of multiple linear regression analysis using the Least Square Panel produce independent variables, namely the results of the t test indicating that Profitability as measured by Return on Assets (ROA) has a p-value of 0.0137 < α = 0.05 with a statistical value of -2.49 shows profitability has a significant negative effect on stock returns. Other independent variables, namely Investor sentiment as measured by Trading Volume (TV), Credit rating as measured by Values (VAL), and Leverage as measured by Debt to Total Asset Ratio (DAR) have a p-value of 0.0137 > α = 0, 05 so that the independent variable has no significant effect on stock returns.

Table 2
Least Square Panel Estimation Results for Stock Returns

Variable	Coefficient	Prob t-Statistic
C	-1.355.315	
TV	0.431939	0.0521
VAL	0.011315	0.8182
ROA	-0.575485	0.0137
DER	-0.067691	0.5326
SIZE	0.033700	0.0157
BM	-0.000120	0.9079
COVID	-0.009863	0.0028
Adjusted R-squared		0.068093
Sum squared resid		9.512.006
F-statistic		2.555.306
Prob(F-statistic)		0.016520

The test's coefficient of determination serves as an instrument to estimate and determine how much the independent variable's effect on the dependent variable contributes. According to the test results for the coefficient of determination in the Panel Least Square model regression results, the independent variable can explain or influence the dependent variable by 6.81%, and the amount that was not obtained from 100% is reduced by the percentage above is another variable outside the research variable that can

explain or influence the dependent variable. The adjusted R-squared value for this relationship was 0.0681, or 6.81%.

The F test aims to find out whether in the regression model, the independent variables have an influence on the dependent variable together. The results of data processing show that the probability value of the independent variable has an f-statistic of 0.0165 < α = 0.05. These results indicate that there is a significant influence between the independent variables, namely TV(X1), VAL(X2), ROA(X3), DAR(X4), SIZE(5), BM(X6), and COVID(X7) together. on the dependent variable, namely stock returns.

Analysis of Hypothesis Testing Results

Discussion regarding the results of data processing from this study and testing the hypothesis will be studied in more depth. The results of the research will focus on the discussion of LQ45 infrastructure sector companies recorded in the 2017-2021 period.

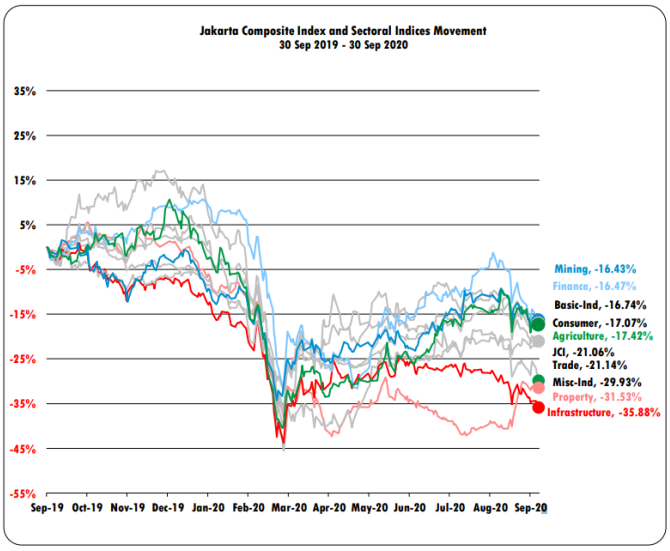

Figure 3. JCI Movement of All Sectors in 2019-2020

The biggest decrease occurred in March 2020, while the stock price started to trend downward in January 2020. Following the March 2020 fall, the stock price then increased. Infrastructure showed a significant share price decrease of -35.88% over the JCI period of September 30 2019 to September 30 2020. The infrastructure industry suffered the greatest decline, hence this study will go into more detail on this sector. A brief table of the companies under studies is provided below:

Table 3
Companies Infrastructure Sector Composite Index LQ45

Kode	Nama Perusahaan	Kode Sektor	Sektor Infrastuktur
EXCL	XL Axiata Tbk.	73	*Telecomunication*
JSMR	Jasa Marga (Persero) Tbk.	72	*Toll Road, Airport, Harbor and Allied Products*
PTPP	PP (Persero) Tbk.	62	*Building Construction*
TLKM	Telekomunikasi Indonesia (Persero) Tbk.	73	*Telecomunication*
WIKA	Wijaya Karya (Persero) Tbk.	62	*Building Construction*

Discussion

The data processing used in this study shows that, when the trading volume (TV) measurement is used as a proxy for the investor sentiment variable, it has no discernible impact on stock returns. The findings of this study are consistent with those of Black's (1986) study, which found that sentiment-driven investors are irrelevant. According to this study, noise trading is crucial for maintaining a liquid market, but investors cannot use noise trading as a means of making money. In practice, more trading noise makes the market more liquid, thus enabling investors to observe price movements. In fact, trading noise itself is one of the factors that influence price noise. Stock prices provide an overview of information, where the more the price of a stock falls from its proper stock value, the more aggressive the trader's information will be. Traders or investors will enter the capital market and take the first steps to buy shares at a declining share price, with the hope of getting bigger profits. Specifically after the government declared that COVID19 had entered Indonesia in March 2020, stock price fluctuations in the infrastructure industry tended to decline. The IHSG stock price, specifically with the JKSE code, likewise exhibits a pattern of volatility not unlike that of the infrastructure sector. This suggests that COVID19 has had an impact on stock prices across industries in addition to the infrastructure sector.

Credit rating factors have no discernible impact on stock returns, according to the results of data processing involving credit ratings using values (VAL) as a measure of credit rating variables. The findings of this study are consistent with those of Saraswati, Nany, and Lyna's (2020) investigation of the population of bond-issuing businesses for the years 2015 to 2017 that registered their stock trading on the IDX. The findings demonstrated that there was no discernible difference in stock returns prior to or following the bond rating announcement. The publication of the bond rating is not the main source of information taken into account to alter investors' investment decisions. The credit rating provided by PEFINDO provides data that is largely accurate and trustworthy in describing the state of the business issuing the shares. Based on the study's findings, it can be said that stock investors do not use credit ratings to help them decide whether to buy a company's stock or not. After and throughout COVID19, the company's credit rating in the infrastructure sector did not significantly alter. Because no concrete evidence of changes in the credit rating assessment made by PEFINDO or Finch Ratings has been

discovered, this shows that COVID19 has not had an impact on the quality of the company's performance regarding credit worthiness.

The analysis of research data indicates that the profitability factor significantly lowers stock returns as determined by return on assets (ROA). This is contrary to the research hypothesis, which states that profitability significantly increases stock returns. The data processing outcomes are consistent with studies on corporate distress risk and future stock returns done by Yun & Kim (2022). The findings demonstrated that low stock returns were a result of unsystematic risk using profitability, leverage, and volatility factors as indicators. To receive compensation and avoid unsystematic distress risk, rational investors must take systematic distress risk. Research by Campbell, Hilscher, and Szilagyi (2008) also lends support to the findings of this study by Yun and Kim (2022). An intriguing finding of the analysis is that, with the exception of 2019 and 2020, when all businesses in the infrastructure sector saw a fall in profitability, corporate profitability during and after the pandemic did not significantly change. The results of the study show that profitability as measured using ROA for all LQ45 companies that are included in the infrastructure sector decreased when the COVID19 pandemic entered Indonesia in 2020.

The data processing results show that the credit rating variable has no appreciable impact on stock returns in the research on the leverage variable using DAR as a measure of the credit rating variable. The results of this study are consistent with studies by Afriani & Yusra (2021), which show that leverage has no impact on stock returns. This reveals that debt is the company's primary external source of funding and that it cannot be used to predict whether a company's stock return will increase or decrease. Furthermore, Khasanah & Darmawan (2018) indicate that the leverage variable is unable to account for variations in stock returns that investors predict. The study's findings suggest that leverage is calculated using DAR for all LQ45 enterprises included in the infrastructure sector both before and after the pandemic, which did not cause any notable changes. The fact that stock returns have varied from year to year across all companies is another intriguing finding. Even though they all belong to the same industrial sector, namely the infrastructure sector, each has a unique pattern of stock return movements.

Conclusion, Limitations, and Suggestions

The conclusion from the results of the study is that the results of multiple linear regression analysis using the Least Square Panel show that the independent variable, namely profitability as measured by Return on Assets (ROA), has a significant negative effect on stock returns. Other independent variables, namely Investor sentiment as measured by Trading Volume (TV), Credit rating as measured by Values (VAL), and Leverage as measured by Debt to Total Asset Ratio (DAR) have no significant effect on stock returns.

The limitations in this study are that the variables used in the study only include stock returns, investor sentiment, credit rating, profitability, leverage, and COVID19. This study has not considered other factors that can affect stock returns. This research

period is also limited to the 2017-2021 period and only includes listed companies with an LQ45 index and focuses on discussing companies in the infrastructure sector.

Suggestions for further research is to extend the research period so that it is hoped that the research results will be more representative. Future research can also take into account other variables that can affect stock returns such as volatility, liquidity, earnings per share, trading volume, monetary policy, and other variables.

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