

Fundamental Analysis And Technical Analysis Of Lq-45 Index Stock Price

Regina Setiawan^{1*}, Abdul Karim Butar-Butar¹, Amalia Indah Fitriana¹

¹University of Muhammadiyah Tangerang

*Correspondence: Regina Setiawan
Email: reginasetiawan01@gmail.com,

Accepted: Juli, 2023

Published: September, 2023



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Abstract : Investors need to carefully consider their options before taking the primary step of investing in the stock market. To anticipate stock values, investors can employ fundamental analysis, which involves estimating the fundamental factors that will impact stock prices in the future. Additionally, investors can use technical analysis, a method of analyzing financial markets that utilizes historical price data and volume to predict future price movements. The aim of this study was to evaluate the effects of both fundamental analysis and technical analysis on the LQ-45 index's stock price. This involved conducting statistical data processing using multiple linear regression as a form of quantitative research. The study's population consisted of 45 LQ-45 index companies from 2018 to 2022, with the research utilizing a sample of 17 companies. The results of the partial data analysis indicated that Return On Assets (ROA) had an impact on stock prices while Current Assets (CR) and trade volume did not.

Keywords: Return On Assets (ROA), Current Ratio (CR), Trading Volume, Stock Price

INTRODUCTION

Indonesia has a set of rules, Law No. 8 of 1995, which are structured considering the interests of all parties involved in capital market activities. These parties include investors, issuers and guarantors. This regulation was enacted to facilitate the creation of economic wealth for those engaged in trading in the capital markets and to ensure that all activities in the capital markets are orderly and compliant.

The first step in investing in the capital markets should be carefully considered by investors. Investors need to strategize in choosing companies they truly believe they can trust and feel they are the right thing to invest in. For example, thorough analysis, such as considering the stock price, is required to be confident that an investor is investing in a company. It is widely recognized that there exist intrinsic and extrinsic influences that impact the value of stocks. (1).

The values of shares are established through dealings in the financial market and are influenced by the availability and interest in them. The standing of an enterprise is a significant aspect that impacts its share values. In case the company enjoys a favorable reputation, the value will inevitably increase. The share prices fluctuate based on market conditions, with a rise or fall depending on the demand. Conversely, if the public perceives the company negatively, the share value will inevitably decrease. (2).

The perception of a company's quality is often based on its stock price. A high stock price generally indicates a company is valuable, while a low stock price suggests it is less valuable. Publicly traded companies prioritize the financial well-being and wealth of their shareholders. However, stock prices are subject to constant fluctuations, with daily increases and decreases. The volatility of the Indonesian stock exchange can potentially impede a company's objectives. Typically, when demand for a stock rises, its price also increases. (3).

In late 2019, cases of COVID-19 first emerged in Wuhan, China, and have since spread to other parts of the world, including Indonesia. The rapid spread of the virus in Indonesia has affected the economy, especially the Indonesian financial markets. The volatility of the LQ45 stock index reflects the high level of uncertainty in financial markets. The LQ45 index list includes 10 stocks that lost more than 3% in the first trading session on Monday, March 2, 2020. The statement by President Joko Widodo (Jokowi) confirming that the corona virus has reached Indonesia put pressure on capital markets. (cnbcindonesia.com).

Stock prices can be predicted through fundamental analysis, which estimates the underlying factors and their running variables that will influence future stock prices. Based on this analysis, a company's stock price can be determined (4). Fundamental analysis emphasizes corporate performance over internal environment, while external environment emphasizes economic conditions (5). Securities analysts typically use information-based accounting approaches as their primary method of fundamental analysis.

A metric known as return on assets (ROA) can be used to assess a company's capacity to produce earnings. This gauge takes into account the amount of revenue, assets, and equity capital. (6). (7) emphasized that the liquidity ratio (CR) is a metric used by companies to assess their business ability to service short-term or near-term debt when fully billed. A high CR score means that the stock price of the company is also high.

In addition to using fundamental analysis techniques to evaluate stock prices, investors in this case are techniques of financial market analysis that use historical price and volume data to predict future price movements. We also use technical analysis. This technique uses price charts, technical indicators, and price patterns to identify market trends, support and resistance levels, and buy/sell moments (8).

Equity trading volume is defined as the number of issuer shares traded according to price agreements between sellers and buyers on the trading day (5). This volume indicates the number of stock trades over a period of time. In addition, the severity of stock price volatility can also be measured through trading volume.

The research gap of a previous study (4) found that CR and trading volume influence stock prices. In another study by (9) found that ROA and trading volume influence stock prices, but conversely CR does not. According to a study by (10), The CR values have an impact on the prices of stocks. If the CR value is high, it means that the company is financially stable since it can fulfill all its immediate liabilities with the available short-term funds. - This is equivalent to having sufficient funds to cover the assets. The investor in this research did not consider the ROA as the primary factor for determining investment decisions.

With reference to this background discussion, we conduct research studies on the impact of return on assets (ROA), liquidity ratio (CR), and trading volume on stock prices. Therefore, the title used in this work is Fundamental Analysis And Technical Analysis Of LQ-45 Index Stock Price.

Based on the given background information, the research problem can be stated as the following inquiries:

1. To what degree does the Return on Assets (ROA) affect the worth of LQ-45 index shares traded on the Indonesia Stock Exchange from 2018 to 2022?
2. How does the Capital Ratio (CR) impact the value of LQ-45 index shares traded on the Indonesia Stock Exchange during the period of 2018-2022?
3. What is the influence of Trading Volume on the value of LQ-45 index shares traded on the Indonesia Stock Exchange from 2018 to 2022?

Based on the problem formulation presented in the Atlas, this investigation aims to:

1. Determine how the value of LQ-45 index equities traded on the Indonesian Stock Exchange between 2018 and 2022 is influenced by return on assets (ROA).
2. Ascertain how the valuation of LQ-45 index stocks listed on the Indonesian Stock Exchange during the period 2018-2022 is affected by capital ratios (CR).
3. Establish the impact of trading volume on the price of LQ-45 index shares listed on the Indonesian Stock Exchange between 2018 and 2022.

The objective of this investigation is to contribute to the advancement of science, particularly in the field of financial markets, and to function as a valuable asset for scholarly exploration and financial market literature. This analysis can serve as a point of reference for future studies on the basics and technical analysis of the LQ-45 equity price.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Grand Theory

The ground theory is the main idea researchers use to describe information about the hypotheses they are using. The purpose of Grand Theory is to support research based on insights gained from research gaps and various scientific thought processes (11).

Signaling theory or signaling theory is the main theory used in this study. This theory suggests that individuals or organizations can provide signals or indications to influence others' perceptions of their abilities and qualities. These signals can be overt indications, such as training and certification, or indirect indications, such as costs and risks incurred. According to this theory, this signal acts as a mechanism to reduce the information asymmetry between the two parties in economic transactions. By providing signals, individuals and companies can provide reliable information about their skills and qualities, enabling other parties to make better decisions (12).

Capital Market

Quoted from (13), the capital market is defined as a bilateral meeting place where the holders of capital and the recipients of capital conduct trading in securities. Loudly (14) A capital market is a market that facilitates the trading of long-term securities such as stocks and bonds and other financial instruments for the purpose of attracting funds from investors to invest in a country's economy. Capital markets also serve as a means for companies to raise long-term capital and generally provide investment options.

Loud (13) Capital markets can be divided into two categories: 1) Primary Market Occurs when an issuer sells new securities to investors (13). 2) Secondary market A financial market in which securities are traded between investors or in which the issuer's securities are bought and sold after being sold in the primary market (13).

LQ-45 index

The LQ45 Gauge is a share index comprising the leading 45 shares by market value traded on the Indonesian Stock Exchange (IDX). The gauge is utilized as a benchmark to gauge the progress of the Indonesian share market, particularly high-quality shares. (15). The LQ45 Index is a stock market indicator consisting of the foremost 45 stocks by market value traded on the Indonesia Stock Exchange (IDX). This benchmark serves as a gauge to assess the progress of the Indonesian stock market, particularly the blue chip stocks. (16).

Stock price

(17) Stock prices are defined as the prices that occur in the stock market at a specific point in time, and stock prices are established by market participants. (18) A stock price is the monetary worth of a stock that reflects the assets of the firm that issued the shares, and fluctuations or fluctuations are mostly influenced by the forces of supply and demand in the stock market (secondary market). in contrast. Loud (13) Stock prices reflect a company's performance and are therefore a very important factor in investors' investment decisions.

Fundamental Analysis

Fundamental analysis is a technique that aids in the evaluation of a firm by examining its fundamental variables such as macroeconomics, industry, finances, and corporate governance. The goal of this research is to compare the intrinsic value of a stock to its market price and determine if the market price effectively reflects the underlying value of the stock. (19)[43].

Another definition of fundamental analysis by (20) is an analysis that utilizes company financial statements for deeper analysis. Fundamental analysis is therefore aimed at assessing a company's financial situation and estimating the value of its shares, considering various factors such as financial performance, corporate governance and macroeconomic conditions.

Technical Analysis

(13) states that the method of estimating the direction of price movements, similar to stock market indicators, is called technical analysis. This method of analysis uses historical market data such as stock prices and trading volumes. In other words, technical analysis is an analysis that predicts future stock price movements from past stock price movements.

A person who uses technical data for research purposes is called a technical analyst. Unlike fundamentalists who use financial reports to assess actual value, technical analysts actually use charts that track changes in trading volumes and stock prices to find patterns in market price movements (21).

Return On Investment (ROA)

Return on investment is a measure of an asset's contribution to net income (22). On the other hand, according to (23) Return on investment is a ratio that measures the ability of capital invested in all assets to

generate net income. Loudly (24) Return on Assets is a measure of the results (profit) of all assets used in a business. (25) emphasized that a high ROA indicates that a company is performing very well, and therefore investors can receive higher dividends. This causes investors to tend to buy trades, which pushes the stock price up. In other words, the theory is that ROA has a positive impact on stock prices.

Loudly (26) ROA can be calculated using the following formula:

$$\text{Return On Asset} : \frac{\text{Laba bersih}}{\text{Total aset}} \times 100\%$$

Current ratio (CR)

Current ratio or current ratio (7) is a measure used to measure a firm's ability to pay short-term or near-term obligations when billed as a whole. Loud (27) Current ratio shows the amount of current liabilities guaranteed by current assets. A company's ability to meet its short-term obligations is enhanced.

Current ratio (CR) indicates the amount of current liabilities that can be covered by assets that are likely to be liquidated quickly. A company's ability to service short-term debt is indicated by an increase in the CR score that accompanies a decrease in the company's liquidity risk. Information about CR growth can be a positive signal for the market and influence investor buying decisions. In addition, it increases investor confidence and the company's ability to pay dividends. (Jumuriati, 2020: 87).

Loudly (7) The liquidity ratio can be calculated using the following formula:

$$\text{Current Ratio} : \frac{\text{Aktiva Lancar}}{\text{Hutang lancar}}$$

Trading Volume

Trading volume is one of the most commonly used indicators to support technical analysis. The volume determines the range to buy or sell a stock. Breaking support-resistance lines at relatively high volumes compared to the average is considered more effective, conversely, breaking support-resistance lines at trend formations or relatively low volumes is less effective. (Wellson Lo 2020: 18).

According to (28), with the help of the law of supply and demand, the magnitude of market strength and weakness is measured by stock trading volume. As a result, there is a correlation between a stock's trading volume and market price. Increased trading volume allows us to continuously provide useful information to our investors. When a stock's trading volume is low and its price falls, investor interest in the stock increases and the stock price rises.

Below is the formula to find trading volume according to (17):

$$\frac{\text{Jumlah saham diperdagangkan}}{\text{Jumlah saham beredar}}$$

According to the theory mentioned earlier, the progression of the structure can be observed in the following manner:

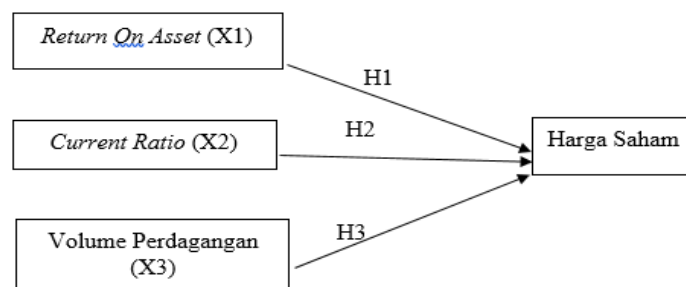


Figure 1 Framework

Source: (4), (29), (30)

METHOD

This study is a causal relationship study using quantitative data. (31) states that causality is a formulation of a research problem that asks about the relationship between two or more variables. Variables

in this study include three independent variables, return on investment, liquidity ratio, and trading volume, and his one dependent variable, stock price.

Population And Sample

During the time frame of 2018-2022, the research participants are corporations that are registered on the Indonesian Stock Exchange and are incorporated in the LQ-45 index. The research sample is composed of companies that are listed on the Indonesian Stock Exchange and are also part of the LQ-45 index for the 2018-2022 period. To gather research samples, a focused sampling approach was employed. The following are the criteria for selecting research samples:

1. Companies listed on the IDX from 2018 to 2022 in the form of LQ-45 member companies.
2. The company publishes its financial statements in Rupiah and the observation period ends on December 30.
3. Companies that did not lose money in the period 2018-2022.

Analysis Method

The analytical method used in this study is panel data regression analysis using the reviews software version 12.0, a computer program designed as a tool for processing statistical and econometric data (32).

Regression Estimation For Panel Data

According to (33) Panel data is a hybrid of time series and cross-sectional information. Time series data is made up of one or more variables observed in observational units over a given time period. Cross-sectional data, on the other hand, are observational data from multiple observational units at a given point in time (33).

1. Common effects model (CEM)

The Basic Effect Systematic Model is the most uncomplicated method for modeling panel data, as it merely integrates cross-sectional and time series data.

2. Model fixed effects (FEM)

According to (34), this model assumes that inter-individual differences can be compensated for by section differences.

3. Modeling random effects (REM)

Loud (33) This design calculates panel information where potential variables could be conflicting. The progression of time and connections among individuals. In a stochastic-effects design, the bin variances are nullified by the error component for every enterprise.

Choosing a Model Method for Panel Data Estimation

Choosing the most suitable framework for handling the panel data utilized in this research is reliant on statistical assessments. This is imperative to secure a precise and effective estimation. Evaluation involves statistical considerations. Loudly (35) There are three ways to choose the best model for managing panel data:

Chow Test

This test is used to select one of the models in panel data regression. We can test the sum of squares using the Chow test (statistical F test) by adding a dummy variable to indicate that the intercepts are different and examining the residuals (RSS) likelihood ratios (34) The guidelines used to draw conclusions from the Chow test are:

- a. H_0 is rejected if the chi-square value of the probability cross section is $< \alpha$ (5%). This means that the fixed effects model is chosen.
- b. H_0 is accepted if the chi-square value of the probability cross section $> \alpha$ (5%). This means that the common effects model is chosen.

Hausmann Test

This test is utilized to differentiate or choose the best model among consistent results and consistent coefficient models. This test is based on a chi-square distribution with degrees of freedom (df) equal to the number of independent variables. (34). Decision:

- a. If the probability cross section (Prob.) is random $> \alpha(0.05)$ then H_0 is accepted and the model used is a random effects model.

- b. If the probability of the cross section (Prob.) happens to be $< \alpha(0.05)$, then H_0 is rejected and the model used is the fixed effects model.

Lagrange Multiplier Test

This examination is utilized to contrast or choose the superior model amidst stable impacts and stable coefficient models. This examination depends on a chi-square dissemination with df equivalent to the quantity of autonomous factors. (35). The guidelines used to draw conclusions from the Breusch-Pagan-based LM test are:

- a. H_0 is rejected if the Breusch-Pagan cross section value $< \alpha$ (5%). This means that the random effects model will be chosen.
- b. H_0 is accepted if the Breusch-Pagan cross section value $> \alpha$ (5%). This means that the common effects model is chosen.

Classic Acceptance Test

(36) Stressed the fact that conventional assumption tests evaluate statistical assumptions which need to be fulfilled in multiple regression analysis, commonly relying on the OLS technique. If the analysis does not meet the requirements, researchers generally adopt alternate approaches to ensure compliance with the hypothesis.

Coefficient of determination (R^2)

Loudly (37) Indicates that the R^2 value gauges the efficacy of the model in elucidating the fluctuations in the reliant variable. The coefficient of determination lies within the range of 0 to 1. (37) states that if an empirical test yields a negative adjusted R^2 value, the adjusted R^2 value is taken as zero.

Hypothesis Test

(38) As a temporary response to a research query, a hypothesis is presented as a question and relies solely on pertinent assertions rather than empirical evidence gathered through data collection. It is grounded in theory rather than actual facts.

RESULTS AND DISCUSSION

Based on results of three tests What has been done so far is what can be done The data regression model reached the following conclusions. Panel used for testing Hypotheses and regression equations for panel data is a random effects model (REM).

Table 1. Conclusion Table

Method	Testing	Result
Uji Chow	CEM vs FEM	FEM
Uji Hausman	FEM vs REM	REM
Uji Lagrange Multiplier	CEM vs REM	REM

source: Data processed, 2023

Drawing upon the outcomes of the trio of assessments executed, it can be inferred that the panel data regression formula employed in hypothesis evaluation constitutes a panel data regression equation reliant on the random effects model (REM).

Thus, employing classical what-if analysis information is unnecessary for this research as the generalized least squares (GLS) technique is utilized by the random effects model (REM) for estimation. The GLS methodology necessitates fulfilling a statistical prerequisite known as the classical acceptance test in the case of regression analysis employing this approach.

Simultaneous hypothesis testing (Test F)

Loudly (36) The F test evaluates the dissimilarity between sets of data in contrast to the dissimilarity within each set, presenting a proportion of the disparities. This proportion is then utilized to ascertain the importance of the autonomous variables in association with the reliant variable. Fundamentally, the F test empowers us to identify whether the model on the whole is noteworthy in clarifying the reliant variable.

Table 2. test results f

F- Statistic	Prob(F-statistic)
2.892361	0.040324

Source : Eviews Processed Results, 2023

The information displayed in the above-mentioned diagram reveals that the F-value is 2.892361, whereas the F table value with a level of significance of $\alpha = 5\%$, $df_1 (k-1) = 3$, and $df_2 (n-k) = 81$ is 2.72. Therefore, since the F-Statistic (2.892361) surpasses the F Table (2.72), and the Prob(F-Statistic) value of 0.040324 is lower than 0.05, it is logical to infer that the variables investigated in this analysis, such as return on investment, current ratio, and trading volume, collectively exert a noteworthy influence on stock prices.

Partial hypothesis test (T test)

Loudly (36) The t-test essentially informs you about the extent to which the independent variable's impact independently clarifies the fluctuations in the dependent variable. The examination was executed at a notable level of 0.05 ($\alpha=5\%$).

Table 3. Test Result t

Variabel	t-Statistic	Prob
ROA	2.967656	0.0039
CR	-0.730538	0.4672
VOL	0.401046	0.6894

Source Eviews Processed Results, 2023

The information displayed in the above-mentioned diagram reveals that the F-value is 2.892361, whereas the F table value with a level of significance of $\alpha = 5\%$, $df_1 (k-1) = 3$, and $df_2 (n-k) = 81$ is 2.72. Therefore, since the F-Statistic (2.892361) surpasses the F Table (2.72), and the Prob(F-Statistic) value of 0.040324 is lower than 0.05, it is logical to infer that the variables investigated in this analysis, such as return on investment, current ratio, and trading volume, collectively exert a noteworthy influence on stock prices.

The t-score for ROA stands at 2.967656, while the t-table value for a significance level of 5%, $df(n-k) = 81$, is 1.98969. As a result, the t-score for ROA (2.967656) is higher than the t-table value (1.98969), and the Prob value is 0.0039, which is less than 0.05. As a result, H_a is accepted, indicating that the ROA variable has a significant effect on stock prices in this study.

The t-statistic's CR value is -0.730538, while the t table value for a 5% level and $df(n-k) = 81$ is 1.98969. Thus, the t-statistic value for the current ratio (CR) (-0.730538) is lower than the t table value (1.98969). Moreover, the probability value of 0.4672 is higher than 0.05. Consequently, it can be deduced that H_0 is accepted, signifying that the CR variable has no effect on the stock prices in this investigation. The t-value for Stock Trading Volume stands at 0.401046. Considering a 5% level of significance and $df(n-k) = 81$, the t-chart value is 1.98969. Consequently, given that the t-value for Stock Trading Volume (0.401046) is lower than the t-chart value (1.98969), and the probability value of 0.6894 is higher than 0.05, we can uphold the null hypothesis (H_0). Thus, we can deduce that in this research, the variable of Stock Trading Volume does not influence stock prices.

INTERPRETATION OF RESULTS

Impact Of Return On Investment (ROA) On Stock Price

The outcomes indicate that with t value $2.967656 > t$ table 1.98969, the impact of return on investment (ROA) on stock prices is partially significant below the level of significance 0.0039 or 0.05, there by endorsing the hypothesis. This implies that ROA has a considerable influence on the stock price. It reveals that the capacity of ROA to anticipate stock prices is highly plausible as the behavior and trend of ROAs executed by corporations are highly precise. Consequently, there are numerous assets that operate or utilize efficiently to optimize the attained stock price.

This is consistent with research results. This research finding is consistent with research by (39), (40) and (41), who state that as ROA increases, so does shareholder returns. There is a positive relationship

between ROA and stock price, implying that an increase in ROA variable can also lead to an increase in stock price. This has the effect of increasing stock prices due to large purchases of shares by investors.

Impact of Current Ratio (CR) on Stock Price

The results showed that $-0.730538 < t$ The liquidity ratio (CR) at the t-values in Table 1.98969 partially did not have a significant effect on the stock price, with significance levels above 0.4672 or 0.05, so the second The hypothesis was rejected. In other words, the current ratio does not affect the stock price. This shows that too high a CR score is not necessarily a good thing. This indicates that many of the company's resources go unused, which can ultimately weigh on the company's bottom line. Even if the CR score is low, the company's stock price will fall.

This is consistent with studies by (40), (5) and (4). This is due to the negative CR value caused by the high value of the CR ratio which signifies the accumulation of working capital in the firm. This indicates that companies are not using their surplus liquid assets to invest, which may contribute to profits. Of course, if a company is unable to tap into its surplus liquidity, investors will perceive the company to be at a loss. . As a result, demand for the company's stock price falls. And of course, this does not affect the stock price.

The Impact Of Trading Volume On Stock Prices.

Results were shown for t counts < 0.401046 . Partially it did not affect the stock price. The t table is 1.98969 and the significance level is greater than 0.6894 or 0.05, so we reject the third hypothesis. This means that the stock's trading volume does not affect the price of the stock.

The results of this study are consistent with those of researchers (5) and (42). This indicates that investors generally do not perceive trading volume information as material. The supply and demand concept is not the only factor that explains the formation of stock prices in the market, but there are other factors such as trends and macroeconomic conditions.

CONSLUSION

The preliminary analysis of the data suggests that the stock prices are impacted by the Return On Assets (ROA) factor. Hence, it can be inferred that the hypothesis claiming the influence of Return On Assets (ROA) on stock prices is supported or verified. However, the results of the initial data analysis indicate that the Current Ratio (CR) factor does not have any impact on the stock prices. Therefore, the hypothesis proposing the effect of Current Ratio on stock prices is disproved or not confirmed. Likewise, the outcomes of the partial data analysis reveal that the Trading Volume factor does not have any effect on the stock prices. Thus, the hypothesis stating the influence of Trading Volume on stock prices is negated or not proven. On the other hand, the simultaneous data analysis results demonstrate that the independent variables, namely Return On Assets (ROA), Current Ratio (CR), and Trading Volume, have a significant and simultaneous impact on the dependent variable, i.e., stock prices.

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