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Nexus fundamental factors, systematic risk, and stock returns (the LQ45 Index for the 2020-2022 Period)

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Abstract

The primary objective of this research is to identify the impact of key drivers, such as profitability ratios such as Return on Assets (ROA), solvency ratios such as Debt to Equity Ratio (DER), market value ratios such as Price Earnings Ratio (PER), and systematic risk indicators such as Inflation and Reference Interest Rate. In contrast, Stock Return is the focus of this investigation. This study seeks to shed light on a mystery. Companies trading on the Indonesia Stock Exchange and included in the LQ45 Index from 2020 to 2022 comprise the study's population. Purposeful sampling was used, and 27 businesses were included in the sample. Descriptive multiple linear regression was employed in this work with panel data and Eviews 10. Using panel data, we find that (1) the ROA and PER ratios significantly affect LQ45 Index Stock Return, and (2) the DER ratio, inflation, and the Reference Interest Rate have little effect on LQ45 Index Stock Return.

Key words: Return on assets (ROA); debt to equity ratio (DER); price earning ratio (PER); inflation; reference interest rate; stock return

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INTRODUCTION

Investment in shares for investors is a risky investment and contains future uncertainty. Knowledge of risk is an important thing that every investor and potential investor should have in making decisions. One of the largest stock markets in Indonesia is the Indonesia Stock Exchange, located in Jakarta. According to (Nurastuti & Maesaroh, 2021), a stock exchange is an institution that holds and provides system facilities for arranging meetings on offers for the sale and purchase of shares between various companies or individuals involved with the aim of trading shares-registered companies.

Investment selection can be considered through the stocks provided by the Indonesian Stock Exchange. Investment in shares is a form of investment that can be used as an option for investors to invest. One of the stock indexes to choose from is the LQ45 index stock. According to (Irmadhani, 2018), the LQ45 Index shares are a collection of 45 liquid stocks with large capitalization and active transactions. This most liquid factor attracts investors because only companies that can maintain their share circulation to remain active and consistent can be included in this Index. In addition, the LQ45 Index shares also contain a variety of industries, so they don't focus on just one sector. Therefore, LQ45 Index shares can be trusted as an investment vehicle.

Table 1.
List of LQ45 Index Stock Return Values

Year	Stock Return Value	Percentage
2020	884,619	12%
2021	1,079,385	22%
2022	982,732	-9%

From Table 1, we can deduce that the value of the LQ45 Index Stock Return has varied throughout time, but will reach a value of 12% in 2020. In 2021, the LQ45 Index returned 22%, a rise over the previous year. In the meantime, the value of the LQ45 Index Stock Return dropped drastically in 2020, falling by -9%. The stock price was higher in the prior period than in the subsequent era, as indicated by the negative sign of the significance of stock returns. Stock price volatility is a yearly phenomenon because of the ebb and flow of stock returns.

Earning dividends and capital gains is the end game for stock investors. Capital gains are decided by changes in stock prices, while a company's profitability is dependent on the company's profitability. Profitability and stock price changes are affected by both internal and external variables (Simanjuntak, 2018). Profitability, solvency, and market value are used as independent variables to conduct an in-depth, fundamental study. However, inflation and reference interest rates are examples of external factors that pose systematic risks that cannot be diversified away.

2020 the Indonesian economy faced significant hurdles due to rising global uncertainties. As interest rates in the United States (US) rise and international financial markets remain unstable, developing countries like Indonesia face a problem from a financial standpoint (Fatmawati, 2023) due to a decrease in the inflow of foreign cash. As a result, the BOP performance of Indonesia weakened, particularly in the second and third quarters of 2020, and the Rupiah currency rate came under significant pressure. To fortify the stability of the Rupiah exchange rate and keep the momentum of economic growth going, Bank Indonesia, the government, and other relevant agencies strictly and persistently implement a mix of policies. Prioritizing efforts to reduce external sector risks that threaten BOP performance, the exchange rate, and economic stability is at the heart of the procedure. Various policies were implemented to keep inflation within the desired range and the financial system stable. According to (Siregar &) To boost the allure of domestic financial assets and bring down the current account deficit to a manageable level, Bank Indonesia increased interest rates on its monetary policy early, front-loading, and ahead of the curve. A program of deepening financial markets was implemented to sustain funding for economic activity.

Stock returns, interest rates, and currency exchange rates are all severely impacted negatively by inflation. Research on fundamental factors and systematic risk by (Fatmawati & Faculty, 2023) indicates that company size has a significant positive effect on stock returns, return on asset (ROA) has no significant adverse effect on Stock Returns, and debt to equity ratio (DER) has a positive and

insignificant effect on Stock Returns. Meanwhile, research (Purwanti & Seltiva, 2022) shows that the gross domestic product, net profit margin, earnings per share, and price-earnings ratio all have a positive and sizable effect on the returns of property and real estate stocks. When the Rupiah is traded for foreign currencies and inflation is high, property values and real estate equities typically decline. The SBI interest rate and ROA also have a large and beneficial effect on the ROI on real estate and associated stocks.

The existence of inconsistencies in previous research regarding research results is the reason for researchers to re-examine the same variables, including fundamental factors in the form of profitability ratios (ROA), solvency ratios (DER), market value ratios (PER) and systematic risk (inflation and interest rates). A study entitled "The Influence of Fundamental Factors and Systematic Risk on Stock Returns (Case Study on the LQ45 Index for the 2020-2022 Period)" is of interest to the researcher based on the preceding summary.

METHOD

The goal of this research necessitates using multiple linear regression analysis to estimate stock returns. To determine the impact of many independent (explanatory) factors on a single dependent (result) variable, multiple linear regression analysis is performed (Zakiyah, 2019). Information is gathered through a process known as documentation. Tracing, which entails gathering secondary data, is the approach used to document the process. In 2020 and 2022, 55 businesses will make up the LQ45 Index on the Indonesia Stock Exchange. This study focuses on companies that survived during the 2020-2022 period on the LQ45 Index.

Model Estimation

Non-participant observation and panel data regression analysis were employed to compile the data for this investigation. They are the Fixed Effect Model, the Random Effect Model, and the Pooled OLS / Common Effect Model. These three models can be broken down as follows (Effendi, 2018):

Common Effect Model (CEM)

Using only time series and cross-section data and estimating it with the little square method (Ordinary Least Square/OLS), the Common Effect Model is the most straightforward panel data model approach (Irmadhani, 2018).

Fixed Effects Model (FEM)

The authors (Wansani and Mispiyanti) treat Each person as a separate unknown parameter in this model, expecting that intercept differences can account for their differences. Therefore, the dummy variable method estimates the fixed effect model panel data to account for differences in firm intercepts.

Random Effect Model (Random Effect Model)

Evidence suggests (Wulandari et al., 2021) that this is the case. Because potential sources of disruption may vary over time and amongst individuals in a panel, this model offers a method for estimating such variables. In contrast to the Fixed Effects Model, the Random Effects Model needs the effects of each individual to account for random variation. They are unrelated to the independent factors that can be measured.

Panel Data Estimation Model Selection

Chow test

The Common Effect model was compared to the Fixed Effect model using the Chow test in Eviews 10, as stated by (Ariyanti, 2019). This test relies on the F-Statistic distribution for its validity. Chow test hypotheses are created after Common Effect and Fixed Effect models are applied to regression data.

Hausman's test

Mattin and Aziz (2020) whether the data was examined with Fixed Effects or Random Effects was determined with the help of the Hausman test. Degrees of freedom (k-1) of the Chi-Square distribution are used in this test.

Lagrange Multiplier Test

(Nurastuti & Maesaroh, 2021) The E views ten packages are tested to determine whether Random Effect or Common Effect is used for data analysis. This test is performed when the Common Effect model is chosen for the Chow test.

Multicollinearity Test

The multicollinearity test examines the possibility of a connection between variables not included in the regression model (Huang, 2022). The purpose of the multicollinearity test is to ascertain if there are any significant correlations between the independent variables that were not found by the regression model.

Heteroscedasticity Test

It has been shown that (WATTO et al., 2020), The purpose of the heteroscedasticity test is to determine if the residual variance in a regression model varies from one observation to the next or if it is constant (in which case the model is homoscedastic). Heteroscedasticity is not present in a decent regression model.

Hypothesis testing

F-Test (F-Test)

Whether or not any of the model's independent variables significantly affect the dependent variable is shown by the F test. The same 5% (or 0.05) threshold is used in this test (Nurastuti & Maesaroh, 2021).

T-test (T-test)

T-test analysis revealed no statistically significant relationship between the independent and dependent variables. Both a 0.95 (= 5%) and a 0.05 (= 5%) significance level will be used for hypothesis testing (Nurastuti & Maesaroh, 2021).

The coefficient of determination (R^2)

It has been shown that How well an independent variable may explain a dependent variable is tested using the coefficient of determination (R2) (Irmadhani, 2018).

Adjustment Test (R^2)

The Adjustment Test (R2) is a statistical method for determining the degree to which an independent variable explains the total range of values seen for a dependent variable (Susilowati & Nawangsasi, 2018).

RESULTS AND DISCUSSION

The Chow test for ensuring that your model fits the requirements yielded a Chi-Square probability value of 0.0009, less than 0.05. We employ the Fixed Effect Model and reject Ho but approve Ha.

Table 2.
Chow test results

Redudant Fixed Effects Tests Equation Untitled Test cross-section fixed effects			
Effects Test	Statistic	d.f	Prob.
Cross-section F	1.811750	(26,49)	0.0362
Cross-section chi-square	54.563726	26	0.0009

The data is represented by a Chi-Square probability value of 0.0015 based on the results of the model specification test using Hausman. Ho is rejected, and the Fixed Effects Model is employed if the p-value is less than.05.

Table 3.
Hausman Test Results

Correlation Random Effects – Hausman Test Equation Untitled Test cross-section fixed effects			
Effects Test	Chi-Sq. Statistic	Chi-Sq. df	Prob.
Cross-section random	19.605918	5	0.0015

The absence of multicollinearity in the model is supported by the fact that each of the variables above has a coefficient value of less than 0.8, as shown by the preceding tests.

The chance that ROA affects stock returns is 0.0212, according to the t (partial) test. H1 is acceptable since the computed probability value of 0.0212 is smaller than the 0.05 significance level, demonstrating that Return On Assets affects Stock Returns.

The probability value of the effect of the Debt to Equity Ratio on stock returns is 0.2834, according to the results of the t (partial) test. The null hypothesis that the Debt to Equity Ratio does not effect Stock Returns is rejected since the obtained probability value (0.2834) is greater than the significance level (0.05).

A t (partial) test found that there was a 0.0002 percent chance that the Price Earnings Ratio influenced stock return. Therefore, H3 is accepted because the calculated probability value (0.0002) is smaller than the 0.05 threshold required for acceptance.

The Effects of Inflation on Stock Returns According to the t (partial) test, the likelihood is 0.7388. Since the calculated probability of H4 being false (0.7388) is greater than the significance level of H4 being true (0.05), H4 can be rejected.

The probability of a positive correlation between reference interest rates and stock returns is 0.6589, according to the results of a T (partial) test. We reject the null hypothesis that there is no relationship between interest rates and stock returns since the computed probability value (0.6589) is more than the 0.05 level required for rejection.

The cumulative influence of both independent and dependent variables: According to the table above, the F-statistic probability is 0.063956 > 0.05, hence we accept H0 and reject Ha. With a p-value greater than 0.05 (0.063956), there is no correlation between the independent and dependent variables. A copy of the F-statistic is shown in the Prob column.

CONCLUSION

Profitability was measured using ROA, and the derived probability value of 0.0212 was less than the significance level of 0.05, showing that ROA had an impact on stock returns. This exemplifies how a shift in Return On Assets (ROA) can impact a company's share price. This study, along with previous work by Arthur Simanjuntak published in the Scientific Journal of Methonomi Volume 4 Issue 1 (2018), demonstrates that partial return on assets (ROA) has a positive and significant effect on stock returns.

Solvability as measured by the Debt to Equity Ratio (DER) has a likelihood value of 0.2834, which is greater than the significance level of 0.05, suggesting that the DER has no effect on stock returns. As a result, we can conclude that the Stock Return is independent of the DER. The results of this study agree with those of Milka M. Oroh et al., who found that the Debt to Equity Ratio (DER) had no simultaneous or partial effect on Stock Returns, as published in the EMBA Journal Vol.7 No.1 (2019).

The obtained probability value (0.0002) for market value as evaluated by the Price Earning Ratio (PER) is below the significance level (0.05), indicating that the PER affects stock returns. This demonstrates how an improved P/E ratio boosts stock returns. Cokorda Istri Indah Puspita Dewi and Henny Rahyuda found a favorable and statistically significant relationship between PER and stock returns in their research published in E-Jurnal Management Unud Vol.5 No.3 (2016), lending credence to the findings of the current study.

Inflation, as measured by the CPI (Consumer Price Index), has no effect on stock returns because its probability value, 0.7388, is larger than the significance level,.05. This exemplifies the fact that stock returns are uncorrelated with inflation. The research by Muhamad Iqbal and Raja Masbar published in the Student Scientific Journal (JIM) Development Economics, Faculty of Economics and Business, Unsyah, Vol.4 No.2 (2019), confirms our findings that inflation has a small negative impact on stock returns.

There is no interest rate effect on stock returns, as evaluated by the BI 7-Day (Reverse) Repo Rate because the probability value produced (0.6589) is greater than the significance level (0.05). This demonstrates that stock returns are unaffected by both extremes in the reference interest rate. This study's findings are consistent with those of Melisa Nababan et al., who published their findings on the insignificance of interest rates for stock returns non the EMBA Journal vol.7 No.4 (2019).

An F-statistics score of 0.063956 indicates a probability greater than 0.05. With a p-value greater than 0.05 (0.063956), there is no correlation between the independent and dependent variables. This proves that fundamental variables and systematic risk would not affect the stock returns of companies included in the LQ45 Index on the Indonesia Stock Exchange during 2020-2022.

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