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Impact of Industry Sector Index on Market Performance

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Abstract
This research aims to examine various sectors that are predicted to influence market returns. The research sample was obtained from the industrial sector index and LQ45 list for three LQ45 reporting periods from February 2022 – July 2023. Data was obtained based on calculations of sector returns and market returns from the sector index and LQ45 index totaling 321 observations. The analysis technique used is multiple linear regression with the help of SPSS version 24 software. The results of the analysis show that seven sectors have a significant positive effect on market performance; while one significant sector had a negative effect, and the other two sectors proved to be insignificant. The consumer cyclicals sector index is the only sector that has a negative impact on market performance. Meanwhile, the energy and transportation sectors have no significant effect on market returns. Meanwhile, the financial sector is the dominant sector that has a positive influence on market performance.
Keywords: sector index, sector return, LQ45 index, market return, market performance.

1. Introduction

The Indonesian government announced that since February 2022 the country of Indonesia has been declared back to normal, so that Pandemic-19 has been declared, likewise with countries in this world. This research tries to examine whether after the pandemic the performance of the capital market (especially in Indonesia) has improved. This performance can be measured using various criteria, including the increase in the composite stock price index (IHSG), LQ45 index and the like. The increase in the share price index is certainly influenced by many factors, both macro and micro factors. Macro factors referring to ICRG included: financial, economic, and political risk. Meanwhile, micro factors included: company fundamentals and industry. This research tries to examine how the industrial sector influences stock market returns on stocks that are consistently listed on the LQ45 Index. This is based on the argument that companies or issuers included in the LQ45 list are companies whose shares have been actively traded on the Indonesia Stock Exchange (BEI) for a period of 6 (six) months. The LQ45 list is always updated in the February and August periods. For example, the LQ45 List for the February 2022 period is valid from 1 February to 31 July 2022; while the LQ45 List for the August 2022 period is valid from 1 August 2022 to 31 January 2023; and so on, every six months an evaluation of the share performance of each company is always carried out.

This research was inspired by Gonzales & Gallizo (2021), Emenike (2017), Sharabati et al. (2013), and Chan et al. (2007) which focuses on the relationship or influence of industrial sectors on stock market returns. Previous research shows that industrial sectors have a negative effect on stock market returns around the 19 pandemic (Gonzales & Gallizo, 2021). Meanwhile, in the normal period (the period long before the 19 pandemic) globally based on the Global Industry Classification

System (GICS) Chan, Lakonishok, and Swaminathan (2007) showed that the industrial sector responded to groups of similar companies in two ways: (1) the industrial sector was more able to captures covariance returns from clusters formed without industry affiliation, and (2) industry sectors reflect the common movement of operating performance as measured by sales growth. This implies that the industry is better at capturing variations in returns than clusters formed without industry affiliation; This means that stock market returns are more dominantly formed by industry groups/sectors.

Emenike (2017) shows that all industrial sectors (except the Consumer Goods and Alternative Securities Market sectors) have a significant serial dependence relationship. Estimates from autocorrelation analysis show that returns from the index of the ASI, Banking, Oil & Gas, NSE30, Insurance, Industrial Goods and Pension industry sectors are serially correlated. The existence of serial dependence in these sectors indicates stock returns predictability. Coefficients in the ASI, Oil & Gas, Insurance, Industrial Goods and Pension sectors have heteroscedasticity which shows that sector returns are return volatility. This means that returns from sectoral indexes vary greatly, thus affecting the volatility of market returns.

Sharabati, Noor, and Saymeh (2013) examined the influence of the Amman Stock Exchange (ASE) sector on the performance of the ASE composite index using daily observations from 29 December 1999 to 30 December 2012. The results of the study indicated that there was a positive relationship between Jordanian economic sectors and sub-sectors with ASE market performance. The financials, industries and services sectors have a significant positive effect on performance.

Butt, Rehman, Khan, and Safwan (2010) show that returns at the industry level are not significant to stock returns at the company level. However, market returns have a significant positive influence on returns at the company level. These results are in accordance with the capital asset pricing model (CAPM) theory, especially the single index model approach (Elton et al., 2014; Sunarto et al., 2023), where the expected return on individual shares is a function of market return.

Research in Indonesia during the 19 pandemic, conducted by Mubarok & Fadhli (2020), showed that sectors operating in the industrial and financial sectors were the sectors worst affected. Meanwhile, sectors that provide basic consumer needs, such as the consumer goods industry, agriculture and trade sectors, are the sectors least affected by the influence of investor attention. On the other hand, Nugroho & Robiyanto (2021) showed during the 19 pandemic that none of the returns from gold or USD/IDR affected the returns on the Jakarta Composite Index (JCI) during the entire observation period (January 2019 to August 2020). Research data refers to Djohanputro (2011) which is based on the closing index. This is based on the assumption that all information entering the market is reflected quickly in prices on the same day. However, the closing price reflects all appropriate information, and accommodates the price of the following day.

Based on the description above, this research aims to test: does the industrial sector index have an effect on market performance? This is based on the consideration that market returns (in this case those reflected in the LQ45 index) are conceptually formed from companies that are actively traded on the stock exchange, and at the same time represent their sector.

2. Literature Review

2.1. Basic Theory and Review of Previous Research

The basic theory used in this research is signaling theory which underlies the formation of market indices as a basis for predicting market returns. Malini (2019) tested the Efficient Market Hypothesis theory on the Indonesian Stock Exchange with the sample index LQ 45. The test results found that the LQ45 index was efficient in weak form. The trading system influences the efficiency of the LQ45 index on IDX. The market index is an index formed from various securities from various sectors, so that the market index is a combined security index (Elton et al., 2014). In investment theory, it is stated that the results that will be obtained from investment (expected return) are directly proportional to the investment risk.

Every investment is expected to produce optimal returns; however, the higher the expected return, the higher the investment risk (Jing et al., 2023). The key to successful investment in the developing capital market is several strategies, where investors try to secure their security assets at low volatility, and take advantage of low stock prices (Frydman & Camerer, 2016). King (1966) in Elton et al. (2014) shows evidence that changes in stock prices are not solely caused by a single index, but are also caused by the influence of the industrial sector. Elton et al. (2014) stated that non-market factors include economic factors and industrial groups or sectors. The industrial sector will influence changes in individual stock prices, based on the argument that market indexes are also formed from sectoral indices.

The industrial sector in the capital market forms its own index which is called the sectoral index. González & Gallizo (2021) conducted a study during the Covid 19 pandemic showing that there was an overreaction to market losses, except in the utilities industry, causing larger losses after the event, which shows that information was captured slowly in the previous stage and stated that prices assets do not reflect all appropriate information in the capital market. Sectoral analysis of the capital market provides a better understanding of market performance for investors and regulators. Market return is a variable that has a significant positive relationship with most stock returns; However, the industrial production index shows a mixed relationship with stock returns (Butt et al., 2010). Sectors that provide basic consumer needs, such as the consumer goods industry, agriculture and trade sectors, are the sectors least affected by the influence of investor attention (Gonzales and Gallizo, 2021).

On the other hand, Mubarok & Fadhli (2020) show that all industrial sectors are inefficient in the form of weak form market efficiency. Domestic investors can exploit inefficient markets in Indonesia, because local investors in the Indonesian capital market have information advantages over foreign investors. Surbakti et al. (2016) shows that the Jakarta Composite Index (composite stock price index) is not only influenced by domestic macroeconomic conditions, but is also influenced by international macroeconomic conditions. Apart from that, it was also found that the Dow Jones Industrial Average (DJI) and exchange rate had a positive effect on JCI's return volatility, while the variables of gold prices, interest rates and inflation were not significant on JCI's return volatility.

González & Gallizo (2021) show that during the COVID-19 pandemic the Chilean stock market was unstable and unpredictable. Since the first day of the announcement of COVID-19 in

Chile, the majority of companies registered in Selective Stock Price Index (IPSA) has negative cumulative abnormal returns, except for the utility sector, and a decrease in positive cumulative abnormal returns in the consumption, industrial, IT and communications sectors. This phenomenon shows that the Chilean capital market is in a form of weak efficiency.

2.2. Variable Concept

a. Market Performance

As the concept of the market in the everyday sense is a meeting place between sellers and buyers so that a price agreement is reached. Likewise, the meaning of the market in terms of the capital market is a situation where the actors (sellers and buyers) can negotiate the exchange of one commodity or group of capital commodities with each other. Capital in this sense can be in the form of loan capital (debt capital) or own capital (equity capital). Loan capital as a traded commodity is issued by companies in the form of debt securities (such as bonds and convertible bonds). Meanwhile, own capital (equity) as a capital market commodity is issued in the form of shares (such as ordinary shares and preferred shares).

As an analogy in traditional markets which are places where the buying and selling process takes place between sellers and buyers; So the transaction process for capital commodities in the capital market also requires a certain place to carry out trading activities (which is called a stock exchange). In accordance with chapter 1 article 1 UUPM no. 8/1995, a stock exchange is defined as a party that organizes and provides a system and/or means for bringing together offers to buy and sell securities from other parties with the aim of trading securities between them. Furthermore, it is stated that securities are securities, namely debt recognition letters, commercial securities, shares, bonds, proof of debt, collective investment participation units, futures contracts on securities and any derivatives or derivatives from securities such as warrant options and rights.

Capital market performance can be seen from various points of view, both from a macroeconomic perspective and the performance of companies (issuers) registered on the capital market or seen from transactions that occur in the capital market regarding trading in securities (Elton et al., 2014). Judging from transactions that occur in the capital market, capital market performance can be measured from two things, namely: Stock Index and Market Capitalization. From various points of view of assessing capital market performance, this research is only limited to capital market transactions reflected in the Composite Stock Price Index (IHSG), the market index reflecting actively traded shares (LQ45 Index), and other indices such as the Sectoral Index. (Sector Index 1 to 10), and Stock Index. This is based on the argument that transactions in the capital market reflect the performance of a country's capital market.

The market performance used in this research is the LQ45 Index which is based on the argument that the shares included in the LQ45 List of Issuers are shares that are actively traded on the Indonesian capital market. Furthermore, based on the LQ45 Index, market performance can be calculated which is reflected in market returns. Referring to Elton et al. (2014) that market return is calculated using the following formula.

$R_{mt} = (ILQ45_t - ILQ45_{t-1})/ILQ45_{t-1}$

R_{mt}: market return

$ILQ45_t$: Index LQ45 period t (index today)

$ILQ45_{t-1}$: Index LQ45 period t-1 (index on the previous day)

b. Sectoral Index

A sector index is an index formed from each company that is part of a particular sector. According to sources from the website https://www.idx.co.id, companies listed on the Indonesia Stock Exchange are grouped into 10 sectors. These sectors consist of: Basic Materials (hereinafter coded Sector Index 1: IS1), Consumer Cyclicals (IS2), Consumer Non-Cyclicals (IS3), Energy (IS4), Financials (IS5), Healthcare (IS6), Industrials (IS7), Infrastructure (IS8), Technology (IS9), and Transportation (IS10). Next, each sector index is used to calculate sectoral returns.

The return calculation for each sector index refers to the concept of return calculation, so that the return for each sector can be formulated as follows.

RIS1 = (IS1t – IS1t-1)/IS1t-1

RIS1: sector 1 return index

IS1t : sector 1 index today

ISIt-1 : sector 1 index on the previous day.

The next sector index return calculation (RIS2 to RIS10) uses the same concept; where returns are always calculated from today's index (period t) and the previous index (period t-1).

2.3. The relationship between industrial sectors and market performance

The behavior of stock returns at the individual company level is different from the industry level. The impact of changes in economic factors on stock returns is more significant and stronger than at the company and industry levels. However, stock returns at the industry level have greater variations compared to economic variables than at the company level. The financial services sector returns are more sensitive to economic changes than the manufacturing sector (Butt et al., 2010). Returns from the financial, industrial and service sectors have a more dominant influence on market performance (Sharabati et al., 2013).

In abnormal situations, such as during the COVID-19 pandemic, it shows that indexes from almost all sectors (except the utilities sector) including the non-banking industries sector have a negative effect on market performance (market returns), except for the industrial, commodities and communications sectors; but it is not statistically significant (González & Gallizo, 2021). In a normal situation like now, assuming the pandemic is declared over, the industrial sector index is expected to have a positive effect on market performance (market returns).

The sector index listed on the Indonesian Stock Exchange consists of 10 sectors including: Basic Materials (IS1), Consumer Cyclicals (IS2), Consumer Non-Cyclicals (IS3), Energy (IS4), Financials (IS5), Healthcare (IS6), Industrials (IS7), Infrastructure (IS8), Technology (IS9), and Transportation (IS10). Based on the assumption that conditions after the COVID-19 pandemic are normal conditions, where the market works normally for trading activities, the index for these sectors is expected to improve market performance.

Fama & French (1997) in Chan et al. (2007) coded each company with four digits, and grouped companies into 48 sectors. The writing of the four digits is based on the first two digits for the main industry code (Standard Industrial Classification-SIC major), and the next two digits are the order of companies in each sector (Chan et al., 2007). Chan et al. (2007) shows that

industry groups have the ability to isolate common stock return movements within their industry. It was also found that companies that are economically similar have the ability to increase the covariation of returns formed in the industrial sector than affiliated companies; and the industrial sector reflects the company's operational performance. Referring to the literature review above, and assuming normal conditions, the sector index is expected to have a positive impact on market performance.

2.4. Hypothesis Formulation

2.4.1. H1: The basic materials sector index has a positive effect on market returns
2.4.2. H2: The consumer cyclicals sector index has a positive effect on market returns
2.4.3. H3: The non-cyclical consumer sector index has a positive effect on market returns
2.4.4. H4: The energy sector index has a positive effect on market returns
2.4.5. H5: The financial sector index has a positive effect on market returns
2.4.6. H6: The healthcare sector index has a positive effect on market returns
2.4.7. H7: The industrials sector index has a positive effect on market returns
2.4.8. H8: The infrastructure sector index has a positive effect on market returns
2.4.9. H9: The technology sector index has a positive effect on market returns
2.4.10. H10: The transportation sector index has a positive effect on market returns

3. Method

3.1. Research Sample

The sample for this research is the industrial sector index listed on the Indonesia Stock Exchange and the LQ45 index for three periods, namely: February 2022 – July 2022; Period August 2022 – January 2023; and the period February 2023 – July 2023.

3.2. Research data

Research data was obtained from the website https://www.idx.co.id especially daily data from the LQ45 Index Data, Stock Market Price Data included in the LQ45 List, and Sectoral Index Data. The daily data used is data at the time of closing (close) on working days on the Indonesia Stock Exchange from 1 February 2022 – 31 May 2023.

3.3. Definition of Concepts, Operations, and Variable Measurement

The conceptual, operational and measurement definitions of variables are shown in Table 1 below.

No	Variables	Definitions	Measurement	Reference
1	Market Performance	Market performance is measured by market returns as reflected in LQ45	$R_{mt} = (ILQ45_t - ILQ45_{t-1})/ILQ45_{t-1}$	Elton et al., 2014
2	Sector Return	Sector return is the return obtained from each sectoral	$RIS_1 = (IS1_t - IS1_{t-1})/IS1_{t-1}$ $RIS_2 = (IS2_t - IS2_{t-1})/IS2_{t-1}$ $RIS_3 = (IS3_t - IS3_{t-1})/IS3_{t-1}$ $RIS_4 = (IS4_t - IS4_{t-1})/IS4_{t-1}$	Elton et al., 2014

		index (RIS)	$RIS_5 = (IS5_t - IS5_{t-1})/IS5_{t-1}$ $RIS_6 = (IS6_t - IS6_{t-1})/IS6_{t-1}$ $RIS_7 = (IS7_t - IS7_{t-1})/IS7_{t-1}$ $RIS_8 = (IS8_t - IS8_{t-1})/IS8_{t-1}$ $RIS_9 = (IS9_t - IS9_{t-1})/IS9_{t-1}$ $RIS_{10} = (IS10_t - IS10_{t-1})/IS10_{t-1}$	

3.4. Analysis Techniques

a. Statistical Descriptive Analysis

Descriptive analysis is used to explain the minimum, maximum, mean and standard deviation values of each variable; Where the dependent variable is Market Performance (which is measured from market returns), and the independent variables consist of ten sectoral returns (starting from sector 1 returns to sector 10 returns).

b. Regression Analysis

Multiple regression analysis of the dependent variable and independent variables can be formulated as follows.

$Rmt = a_i + b_{i1}RIS1 + b_{i2}RIS2 + b_{i3}RIS3 + b_{i4}RIS4 + b_{i5}RIS5 + b_{i6}RIS6 + b_{i7}RSI7 + b_{i8}RIS8 + b_{i9}RIS9 + b_{i10}RIS10 + ei$

The coefficients b_{i1} to b_{i10} show the beta of each sectoral return, where on the Indonesian Stock Exchange there are 10 industrial sectors from various companies whose shares are traded on the stock exchange.

Rmt: market return obtained from the LQ45 Index
RIS1 : return index sector 1 (basic materials)
RIS2 : return index sector 2 (consumer cyclicals)
RIS3 : return index sector 3 (consumer non-cyclicals)
RIS4 : return index sector 4 (energy)
RIS5 : return index sector 5 (financials)
RIS6: return index sector 6 (healthcare)
RIS7: return index sector 7 (industrials)
RIS8 : return index sector 8 (infrastructure)
RIS9: return index sector 9 (technology)
RIS10 : return index sector 10 (transportation)
e_i : error term

c. Residual Normality Test

The normality test uses Jarque-Bera based on skewness and kurtosis values.

The skewness value is obtained from the ratio between skewness divided by the standard error of skewness which can be formulated as follows.

Skewness ratio = skewness/SE of skewness

If the skewness ratio is less than 2.00 (precisely <1.98), then the residual is declared normal (Gujarati & Porter, 2009).

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Next, the kurtosis value is obtained from the ratio between kurtosis divided by the standard error of kurtosis which can be formulated as follows.

Kurtosis ratio = kurtosis/SE of kurtosis

If the kurtosis ratio is less than 3.00, then the residual is declared normal (Gujarati & Porter, 2009).

d. Classic assumption test

(1) Heteroscedasticity Test

The heteroscedasticity test uses the Glejser test to detect whether the independent variables are related to error or not. If the independent variable is not significant for error, then the model is declared to have no symptoms of heteroscedasticity. Mathematically it can be formulated in the following equation:

$AbsRes = b_{i1}RIS1 + b_{i2}RIS2 + b_{i3}RIS3 + b_{i4}RIS4 + b_{i5}RIS5 + b_{i6}RIS6 + b_{i7}RIS7 + b_{i8}RIS8 + b_{i9}RIS9 + b_{i10}RIS10$

AbsRes: absolute residual, is the absolute residual (error). The model is free from symptoms of heteroscedasticity if all independent variables are not significant towards AbsRes.

(2) Multicollinearity Test

The multicollinearity test uses the variance inflation factor (VIF) value obtained from 1/tolerance (Gujarati & Porter, 2009). If the VIF value < 10, then the model does not have symptoms of multicollinearity.

(3) Autocorrelation Test

Durbin-Watson uses Durbin-Watson to detect the presence/absence of autocorrelation symptoms. If the Durbin-Watson (DW) value lies in the area between *dU* and *4-dU*, then the model does not have autocorrelation symptoms.

e. Model Testing and Hypothesis Testing

(1) Model Test

Test the model using the F test to determine whether the model meets feasibility or not. If the F value is significant at the level <0.05 then the model is declared to meet goodness of fit. If the model meets feasibility, then the model is also seen from the size of R square. A good model is if the variation in the independent variables has the ability to explain the dependent variable close to 1.

(2) Hypothesis testing

Hypothesis testing uses the t test, where the hypothesis is declared accepted if the significance value of t is less than 0.05; and the beta coefficient is in the direction of the hypothesis.

4. Results and Discussion

4.1. Descriptive Statistics

Statistical descriptive analysis of the sample used in this research consisting of 321 observations of market return variables (LQ45) and 10 sectoral indices (IS) is presented in Table 2 below.

Tabel 2: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation

IS1	321	-.033	.034	-.00070	.011240
IS2	321	-.031	.035	-.00015	.008147
IS3	321	-.031	.031	.00038	.007737
IS4	321	-.055	.069	.00103	.015749
IS5	321	-.044	.026	-.00042	.009076
IS6	321	-.028	.028	.00002	.008773
IS7	321	-.030	.039	.00032	.010533
IS8	321	-.034	.028	-.00031	.008587
IS9	321	-.069	.178	-.00125	.023730
IS10	321	-.678	2.272	.00506	.133451
LQ45	321	-.055	.026	.00005	.009137
Valid N (listwise)	321				

Based on Table 2, it shows that the average market return from the LQ45 index is 0.00005; while the average return from each sectoral index with a negative sign includes IS1 (Basic Materials sector), IS2 (Consumer Cyclicals sector), IS5 (Financials sector), IS8 (Infrastructure sector), and IS9 (Technology sector). Meanwhile, the average returns with a positive sign include IS3 (Consumer Non-Cyclicals sector), IS4 (Energy sector), IS6 (Healthcare), IS7 (Industrials), and IS10 (Transportation). Thus, it can be stated that the average return from the sector index has five sectors with a negative sign and five sectors with a positive sign. The following description of each sector name is shown in Table 3.

Tabel 3:
Name of Industry Sector

No	Kode	Sektor
1	IS1	Basic Materials
2	IS2	Consumer Cyclicals
3	IS3	Consumer Non-Cyclicals
4	IS4	Energy
5	IS5	Financials
6	IS6	Healthcare
7	IS7	Industrials
8	IS8	Infrastructure
9	IS9	Technology
10	IS10	Transportation

4.2. Residual Normality Test Results

The results of the residual normality test calculation are shown in Table 4 below.

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Table 4: Normality Test Results

	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
Unstandardized Residual	321	-.117	.136	.446	.271
Valid N (listwise)	321				

Based on this table, the skewness and kurtosis ratio can be calculated as follows: Skewness ratio = -0.117/0.136 = -0.86; and kurtosis ratio = 0.446/0.271 = 1.65. These results indicate that the residuals are normally distributed, the skewness and kurtosis ratios are each less than +/- 1.96 at an alpha (α) of 0.05.

4.3. Classic assumption test results

The results of the classical assumption test can be summarized in Table 5 below.

Table 5: Summary of Classic Assumption Test Results

Variabel: Sektor	Heteroskedastisitas	Multikolineritas	Autokorelasi
IS1: Basic materials	Value t = -1.355; sig. 0.176	VIF = 1.589	DW count = 1.969;
IS2: Consumer cyclicals	Value t = -0.427; sig. 0.670	VIF = 1.709	dL = 1.665;
IS3: Consumer non-cyclicals	Value t = 0.404; sig. 0.687	VIF = 1.410	dU = 1.874;
IS4: Energy	Value t = -0.782; sig. 0.435	VIF = 1.629	4 – dU = 2.126;
IS5: Financials	Value t = 0.199; sig. 0.842	VIF = 1.915	4 – dL = 2.335;
IS6: Healthcare	Value t = -0.179; sig. 0.858	VIF = 1.121	1.874 < 1.969 < 2.126
IS7: Industrials	Value t = 1.449; sig. 0.148	VIF = 1.866	No-autocorrelation
IS8: Infrastructure	Value t = -1.135; sig. 0.257	VIF = 1.658	
IS9: Technology	Value t = 0.827; sig. 0.409	VIF = 1.143	
IS10: Transportation	Value t = -0.949; sig. 0.344	VIF = 1.029	

Based on Table 5, it shows that in the regression model there are no symptoms of heteroscedasticity in all variables (IS1 to IS10) from the basic materials sector to the transportation sector, because the significance value is more than 0.05 (not significant) which means that all independent variables are not related to error (residual). Likewise, the variance inflation factor (VIF) value in the multicollinearity test results shows that the regression

model does not have symptoms of multicollinearity, because the VIF value is less than 10. This means that the ten independent variables are not related to each other. The results of the autocorrelation test show that the Durbin-Watson (DW) value of 1.969 is located between the upper bound (dU = 1.874) and 4 – dU (2.126). Thus, the regression model also does not show symptoms of autocorrelation. This means that errors from one observation and errors from other observations are not related to each other.

4.4. Model and Hypothesis Test Results

The results of model testing and hypothesis testing can be summarized in Table 6 below.

Table 6: Summary of Model Test Results and Hypothesis Testing

Variables	Coefficient	Information
IS_1: Basic materials	0,104**	accepted
IS_2: Consumer cyclicals	-0,099**	*rejected*
IS_3: Consumer non-cyclicals	0,147***	accepted
IS_4: Energy	0,033	*rejected*
IS_5: Financials	0,513***	accepted
IS_6: Healthcare	0,096***	accepted
IS_7: Industrials	0,205***	accepted
IS_8: Infrastructure	0,163***	accepted
IS_9: Technology	0,067*	accepted
IS_{10}: Transportation	-0,036	*rejected*
Value F	102,159***	Goodness of fit
R square	0,767	Ability to explain 76,7%

Information: *** significant at the level of 0,001;
** significant at the level of 0,01;
* significant at the level of 0,05.

The model test results show that the F value is 102.159 at a significance level of 0.001, so the model is declared to meet goodness of fit. The ability to explain 10 independent variables (sector returns 1 to 10) on the dependent variable (market returns) is 76.7%. These results indicate that variations in the sector index are able to explain variations in market returns of 76.7%; while the remaining 23.3% is explained by other factors.

The results of the hypothesis test can be explained below.

4.1. The influence of the basic materials sector index on market returns.

The analysis results from Table 6 show that IS1 (Sector Index 1), namely the basic materials sector index, has a significant positive effect on market returns. This result is shown with a significance of 0.003 (less than 0.05), and the beta coefficient has a positive direction. Based on these results, hypothesis 1, which states that the basic materials sector index has a positive effect on market returns, is accepted.

4.2. The influence of the consumer cyclicals sector index on market returns.

The results of the analysis show that IS2 (Sector Index 2), namely the consumer cyclicals sector index, has a significant negative effect on market returns. This result is shown with a significance of 0.006 (less than 0.05), but the beta coefficient has the opposite direction (negative). Based on these results, hypothesis 1, which states that the consumer cyclicals sector index has a positive effect on market returns, is rejected.

4.3. The influence of the non-cyclical consumer sector index on market returns.

The results of the analysis show that IS3 (Sector Index 3), namely the non-cyclical consumer sector index, has a significant negative effect on market returns. This result is shown with a significance of 0.000 (less than 0.05), and the beta coefficient has the same direction (positive). Based on these results, hypothesis 3, which states that the non-cyclical consumer sector index has a positive effect on market returns, is accepted.

4.4. The influence of the energy sector index on market returns.

The results of the analysis show that IS4 (Sector Index 4), namely the energy sector index, has no significant effect on market returns. This result is shown with a significance of 0.345 (more than 0.05). Based on these results, hypothesis 4, which states that the energy sector index has a positive effect on market returns, is rejected.

4.5. The influence of the financial sector index on market returns.

The results of the analysis show that IS5 (Sector Index 5), namely the financial sector index, has a significant positive effect on market returns. This result is shown with a significance of 0.000 (less than 0.05), and the beta coefficient has the same direction (positive). Based on these results, hypothesis 5, which states that the financial sector index has a positive effect on market returns, is accepted. This sector is the dominant sector influencing market returns.

4.6. The influence of the healthcare sector index on market returns.

The results of the analysis show that IS6 (Sector Index 6), namely the healthcare sector index, has a significant positive effect on market returns. This result is shown with a significance of 0.001 (less than 0.05), and the beta coefficient has the same direction (positive). Based on these results, hypothesis 6, which states that the healthcare sector index has a positive effect on market returns, is accepted.

4.7. The influence of the industrials sector index on market returns.

The results of the analysis show that IS7 (Sector Index 7), namely the industrials sector index, has a significant positive effect on market returns. This result is shown with a significance of 0.000 (less than 0.05), and the beta coefficient has the same direction (positive). Based on these results, hypothesis 7, which states that the industrial sector index has a positive effect on market returns, is accepted.

4.8. The influence of the infrastructure sector index on market returns.

The results of the analysis show that IS8 (Sector Index 8), namely the infrastructure sector index, has a significant positive effect on market returns. This result is shown with a significance of 0.000 (less than 0.05), and the beta coefficient has a positive direction. Based on these results, hypothesis 8, which states that the infrastructure sector index has a positive effect on market returns, is accepted.

4.9. The influence of the technology sector index on market returns.

The results of the analysis show that IS9 (Sector Index 9), namely the technology sector index, has a significant positive effect on market returns. This result is shown with a significance of 0.023 (less than 0.05), and the beta coefficient has a positive direction. Based on these results, hypothesis 9, which states that the technology sector index has a positive effect on market returns, is accepted.

4.10. The influence of the transportation sector index on market returns.

The results of the analysis show that IS10 (Sector Index 10), namely the transportation sector index, has no effect on market returns. This result is shown with a significance of 0.195 (more than 0.05), and the beta coefficient has the opposite direction (negative). Based on these results, hypothesis 10, which states that the transportation sector index has a positive effect on market returns, is rejected.

4.5. Discussion

Based on the results of the analysis, the model used to predict market performance (as measured by market returns based on the LQ45 index) shows a model that meets goodness of fit. This is indicated by the value of F = 102.159 with significance = 0.000. This model is also a strong model (robust), the ability independent variable to explain the dependent variable by 76.7% (indicated by R square = 0.767).

The regression results can be shown in the following equation:

Rmt = 0.104 IS1 – 0.099 IS2 + 0.147 IS3 + 0.033 IS4 + 0.513 IS5 + 0.096 IS6 + 0.205 IS7 + 0.163 IS8 + 0.067 IS9 – 0.036 IS10.

These results show that IS5 (financial sector index) is the sector that dominantly influences market performance (market returns). This is followed by IS7 (industrial sector), IS8 (infrastructure sector), and IS3 (non-cyclical consumer sector).

The results of hypothesis testing show that seven hypotheses are accepted; where this indicates that the following sectors: basic materials, consumer non-cyclicals, financials, healthcare, industrials, infrastructure, and the technology sector reflect investors' reactions in assessing market performance which is proxied by the LQ45 index. These seven sectors have a positive influence on market performance. This result is different from González and Gallizo (2021) that all industrial sectors have a significant negative effect on market returns. The differences in these results lie, among other things, in the observation period. González and Gallizo (2021) used an observation period around the time of the pandemic (10 days before and after the announcement of the pandemic). González and Gallizo (2021) also show that the data used is non-normal data, so they use non-parametric tests; whereas this research was conducted in the period after the pandemic, the data was normally distributed, so the analysis technique used parametric tests.

Besides that, this research uses relatively longer daily data (321 days of observation) rather than just around the pandemic. Under relatively normal conditions, investors tend to assess the market more rationally (Chan et al., 2007). The results of this research indicate that market conditions are in the form of semi-strong efficiency: the decisions take account public information, as well as historical prices. Values are rapidly adjusted when information becomes

public; therefore, asset prices reflect all available public information (González and Gallizo, 2021).

Meanwhile, the other three sectors, especially the consumer cyclicals sector, tend to go in the opposite direction to market performance; Likewise, the energy and transportation sectors tend to be ignored by investors. This indicates that under normal conditions (after the pandemic) investors tend to react in the opposite direction, and do not even react to the seasonal sector, because it is not a daily necessities item.

5. Conclusions, Suggestions and Limitations

5.1. Conclusions.

Based on the results of the analysis regarding the impact of sectoral indices on market performance, the following can be concluded.

That after the end of the pandemic, starting from early February 2022, capital market conditions in Indonesia will be relatively normal. The test results show that seven sectors can be used to measure market performance. The seven sectors include: basic materials, consumer non-cyclicals, financials, healthcare, industrials, infrastructure, and the technology sector. A total of seven hypotheses were proven to be accepted, and three hypotheses were rejected. These results indicate that the condition of the Indonesian capital market is semi-strong efficient. The financial sector is the dominant sector that has a positive influence on market performance; followed by the industrials, infrastructure and consumer non-cyclical sectors. Meanwhile, the consumer cyclicals sector has proven to have a significant negative effect on market performance. Meanwhile, the energy and transportation sectors have no effect on market performance.

5.2. Suggestions and Limitations

In this research, the market performance variable is measured from market returns which are based on the LQ45 index. This measurement proxy reflects the market performance of shares that are actively traded on the Indonesia Stock Exchange, so the results of this research are only limited to the national market (Indonesia). It is recommended that further research expand the area, for example at the Southeast Asian level. Further analysis can also be developed to examine shares that can be used as portfolio candidates, and research into the impact of sectoral indices on stock returns, especially shares that are on the LQ45 list consistently, for example for four semesters from February 2022 until now.

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