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Predictive Accuracy of the Arbitrage Pricing Theory Across Presidential Regimes: Evidence from Indonesia's LQ45 Index

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Abstract: The Indonesian capital market is shaped by macroeconomic forces that drive stock return movements, yet evidence on how accurately factor-based asset pricing predicts returns under different political regimes remains limited. This study examines the Arbitrage Pricing Theory on the LQ45 Index across the Yudhoyono and Widodo presidencies and evaluates its predictive accuracy using mean absolute deviation. Seven dominant macroeconomic factors were derived from forty-one variables through principal component analysis. The sample comprised 23 stocks in the Yudhoyono period and 35 in the Widodo period, selected purposively, and was analyzed using multiple linear regression, dummy-variable difference tests, and prediction-error measurement across four return groups. The seven factors were jointly significant for stock returns in every group, while the direction of individual effects varied across return groups, and most factors showed no significant difference between the two periods. The model produced its lowest prediction error in the low-return group during the Widodo period. The study's novelty lies in reducing forty-one macroeconomic variables into seven interpretable factors and comparing the theory's predictive accuracy across presidential regimes and return groups, offering emerging-market evidence for investors and portfolio managers.

Keywords: Arbitrage Pricing Theory, LQ45 Index, Macroeconomic Factors, Predictive Accuracy, Stock Returns

Abstrak: Pasar modal Indonesia dipengaruhi oleh berbagai kekuatan makroekonomi yang menggerakkan imbal hasil saham, namun bukti mengenai seberapa akurat model penetapan harga berbasis faktor dalam memprediksi imbal hasil pada rezim politik yang berbeda masih terbatas. Penelitian ini menguji Arbitrage Pricing Theory pada Indeks LQ45 pada masa pemerintahan Yudhoyono dan Widodo serta mengevaluasi akurasi prediksinya menggunakan mean absolute deviation. Tujuh faktor makroekonomi dominan diperoleh dari empat puluh satu variabel melalui principal component analysis. Sampel terdiri atas 23 saham pada periode Yudhoyono dan 35 saham pada periode Widodo yang dipilih secara purposif, kemudian dianalisis menggunakan regresi linear berganda, uji beda dengan variabel dummy, dan pengukuran error prediksi pada empat kelompok imbal hasil. Ketujuh faktor secara simultan signifikan terhadap imbal hasil saham pada seluruh kelompok, sementara arah pengaruh masing-masing faktor bervariasi antarkelompok, dan sebagian besar faktor tidak menunjukkan perbedaan signifikan antara kedua periode. Model menghasilkan error prediksi

Kata Kunci: *Arbitrage Pricing Theory, Indeks LQ45, Faktor Makroekonomi, Akurasi Prediksi, Imbal Hasil Saham*

INTRODUCTION

The capital market channels funds between investors and firms that require capital, and it serves as a barometer of a country's economic progress. Because stock returns respond to systematic economic forces, investors rely on asset-pricing frameworks to understand how those forces are priced. The Arbitrage Pricing Theory (APT), formulated by Ross (1976) and extended by Roll and Ross (1980), is one such framework. Unlike the Capital Asset Pricing Model, which reduces risk to a single market factor, APT holds that asset returns are linearly related to multiple systematic factors (Yao et al., 2014), making it well suited to an economy exposed to many macroeconomic influences such as Indonesia.

The LQ45 Index is a natural setting in which to test this framework. Its constituents are selected for high liquidity, large market capitalization, and strong fundamentals, and prior evidence shows that liquidity and profitability raise the value of LQ45 firms (Fridayanti et al., 2023) and that macroeconomic variables such as inflation, interest rates, and exchange rates affect their valuation (Faradilla & Meliza, 2025). Because the index composition is reconstituted over time, its exposure to macroeconomic factors may itself shift across periods a source of structural variation that comparative studies must address.

Seven groups of macroeconomic forces are expected to price LQ45 returns. Global equity indices matter because Indonesia's integration with world markets transmits foreign shocks to domestic returns, although evidence is mixed on which indices dominate (Riantani & Tambunan, 2013; Nurcahyo et al., 2019). Domestic macroeconomic indicators interest rates, money supply, output, and the exchange rate shape discount rates and corporate earnings, yet studies report conflicting signs for the exchange rate and the policy rate (Desitania, 2021; Lilyana et al., 2022). World oil prices act through input costs and the energy-mining sector, with effects ranging from insignificant to significantly positive (Iqbal & Masbar, 2019; Sumatrani Saragih et al., 2021). The China index captures contagion and trade linkages with Indonesia's largest trading partner, but its transmission appears unstable over time (Andiyasa et al., 2014; Hafif et al., 2025). The Arabian index operates through geopolitical and religious-economic ties, with evidence spanning positive, insignificant, and negative effects (Andriani & Garnia, 2023; Anwar et al., 2018; Kustina & Megawati, 2021). Resource competitiveness, proxied by nickel, reflects Indonesia's commodity position but is expected to matter mainly for the few mining constituents of the index (Wukagani et al., 2018). Finally, inflation influences valuations through purchasing power and profitability, again with mixed findings (Ayu & Geriadi, 2017; Swandari, 2023).

Three limitations recur across this body of work: studies examine one or a few indicators rather than a comprehensive factor set, they emphasize explanation rather than predictive accuracy, and they rarely test whether the pricing relationship is stable across political-economic regimes.

These limitations matter because Indonesia's macroeconomic environment has not been constant. The Yudhoyono and Widodo presidencies represent distinct policy regimes, and each encompassed a major global shock the 2008 global financial crisis under Yudhoyono and the COVID-19 pandemic under Widodo. Differences in economic policy, external conditions, and crisis exposure across the two eras could plausibly alter both the strength of individual macroeconomic factors and the accuracy with which a factor model prices returns. Whether APT performs consistently across such regimes is largely unexamined for the Indonesian market.

This study addresses these gaps. It condenses 41 candidate macroeconomic variables into seven interpretable factors through Principal Component Analysis, tests their relationship with LQ45 returns across the Yudhoyono and Widodo periods and across high- and low-return

groups, and evaluates the predictive accuracy of the resulting APT model using the Mean Absolute Deviation, the average prediction error. Its novelty lies in combining large-scale factor reduction, an explicit cross-regime comparison, and a prediction-error assessment within a single design an approach not previously applied to the LQ45 Index.

Accordingly, the study pursues three research questions: (1) Do the seven macroeconomic factors, jointly and individually, relate to LQ45 stock returns? (2) Does the influence of these factors differ between the Yudhoyono and Widodo periods? (3) How accurately does the APT model predict returns across return groups and regimes, and in which group and period is the prediction error lowest?.

METHOD

This research method uses a descriptive verification approach. The population consisted of 150 stocks, with samples of 23 stocks (SBY) and 35 stocks (JKW) using a purposive sampling method. Analysis used multiple linear regression, dummy variable regression difference tests, and Mean Absolute Deviation (MAD).

This study employs a descriptive verification approach using panel data, which combines time series and cross-sectional data. Secondary data were used, consisting of monthly stock prices obtained from Yahoo Finance, macroeconomic variables from Bank Indonesia (BI), the Central Statistics Agency (BPS), the U.S. Energy Information Era (EIA), and various international stock exchange sources. The observation period covers the presidential terms of Susilo Bambang Yudhoyono (SBY) and Joko Widodo (JKW).

The population of this study consists of 150 stocks. Sample selection was conducted using purposive sampling with the following criteria: (1) stocks consistently listed in the LQ 45 Index throughout the SBY and JKW presidential periods; and (2) stocks with complete data during the observation period. Based on these criteria, 23 stocks were selected for the SBY period and 35 stocks for the JKW period. The samples were then classified into four portfolio groups based on return levels: high-return SBY, low-return SBY, high-return JKW, and low-return JKW shown in Table 1.

Table 1. Portfolio Group Classification Matrix

Presidential Period	High-Return Group	Low-Return Group
SBY Period (2004–2014) n = 23 stocks	Group 1: High-Return SBY	Group 2: Low-Return SBY
JKW Period (2014–2024) n = 35 stocks	Group 3: High-Return JKW	Group 4: Low-Return JKW

Source: Author (2024)

This study employs 41 macroeconomic variables encompassing global stock indices, domestic macroeconomic variables, commodity prices, exchange rates, and other financial indicators. Principal Component Analysis (PCA) was applied to reduce data dimensionality and identify dominant factors. The PCA produced seven new factors used as independent variables in the APT model: Global Index (X_1), Macroeconomic Indicators (X_2), World Oil (X_3), China Index (X_4), Arabian Index (X_5), Resources Competitiveness (X_6), and Inflation (X_7).

The multiple linear regression test equation to measure the size of the influence is shown in equation (1).

$$R_{it} = a + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \cdots + \beta_n X_{nit} + e_{it} \quad (1)$$

The dummy variable regression difference test technique uses dummy variables as distinguishing signs. The regression equation used using dummy variables is shown in equation (2).

$$R_{it} = b_0 + b_1 X_1 + b_2 X_2 + \cdots + b_n X_n + b(n+1)D + b(n+2)D.X_1 + b(n+3)D.X_2 + \cdots + b(2n+1)D.X_n \quad (2)$$

The average absolute error can be calculated using a calculation method known as Mean Absolute Deviation (MAD). MAD can also be used as an initial measure of the overall forecasting error of a model. Furthermore, the formula for calculating MAD is shown in equation (3).

$$MAD = \sum \left| \frac{y_i - \hat{y}_i}{n} \right| \quad (3)$$

The research method describes the research type, research object, population, sample, research time and location, instruments, analytical tools, and other matters related to the research procedure. This section may be divided into several paragraphs or subsections, but it should not use numbering.

RESULTS AND DISCUSSION

In this study, before multiple linear regression, a classical assumption test is required, which includes normality, heteroscedasticity, autocorrelation, and multicollinearity tests as shown in Table 2.

Table 2. Results of the Classical Assumption Test

Normality Test				
	SBY High Return	SBY Low Return	JKW High Return	JKW Low Return
Prob.ability	0.233540 > 0.05	0.068087 > 0.05	0.820632 > 0.05	0.152350 > 0.05
Multicollinearity Test				
Variable	SBY High Return	SBY Low Return	JKW High Return	JKW Low Return
Global Index	1.021306 < 10.00	1.011285 < 10.00	1.059165 < 10.00	1.135858 < 10.00
Macroeconomics	3.892307 < 10.00	3.91666 < 10.00	6.235673 < 10.00	8.31259 < 10.00
World Oil	3.459382 < 10.00	3.442832 < 10.00	2.158438 < 10.00	2.141745 < 10.00
China Index	1.104889 < 10.00	1.070883 < 10.00	1.530289 < 10.00	1.398002 < 10.00
Arabian Index	1.049936 < 10.00	1.014906 < 10.00	1.217183 < 10.00	1.239549 < 10.00
Resources	1.40146 < 10.00	1.388557 < 10.00	7.117186 < 10.00	9.059167 < 10.00
Competitiveness				
Inflation	1.023884 < 10.00	1.016751 < 10.00	1.853624 < 10.00	1.809705 < 10.00
Heteroscedasticity Test				
	SBY High Return	SBY Low Return	JKW High Return	JKW Low Return
Chi-Square Prob..(1)	0.9544 > 0.05	0.0529 > 0.05	0.0962 > 0.05	0.3344 > 0.05
Autocorrelation Test				
du < d < (4-dl)				
SBY High Return	1.8413 < 2.0468 < 2.3034			
SBY Low Return	1.8413 < 1.9225 < 2.3034			
JKW High Return	1.8413 < 2.1158 < 2.3034			
JKW Low Return	1.8413 < 2.0607 < 2.3034			

Source: Processed Primary Data, (2024)

Table 2 presents the results of the classical assumption tests across all four portfolio groups. The normality test results show that all groups have probability values above 0.05, indicating that the data are normally distributed. The multicollinearity test results show that all variables across the four groups have VIF values below 10, confirming the absence of multicollinearity. The heteroscedasticity test shows that the Chi-Square probability values for all groups exceed 0.05, indicating no heteroscedasticity problem. Meanwhile, the autocorrelation test using the Durbin-Watson statistic shows that all groups fall within the range of $du < d < (4-dl)$, indicating no autocorrelation. Therefore, all classical assumptions have been satisfied and the model is deemed appropriate for further analysis.

Afterward, multiple linear regression analysis requires model selection. There are three estimation models: the common effects model, the fixed effects model, and the random effects

model. The Chow test, the Hausman test, and the Lagrange multiplier test are used to select the best model, as shown in Table 3.

Table 3. Selection Best Model

Test	Criteria	SBY High Return	SBY Low Return	JKW High Return	JKW Low Return
Chow Test	Cross-section F (Prob.)	0.9391 > 0.05	0.3439 > 0.05	0.6320 > 0.05	0.1118 > 0.05
	Result	Common Effect	Common Effect	Common Effect	Common Effect
Hausman Test	Random Cross-section (Prob.)	0.9765 > 0.05	0.4113 > 0.05	0.3004 > 0.05	0.8006 > 0.05
	Result	Random Effect	Random Effect	Random Effect	Random Effect
LM Test	Breusch-Pagan (Prob.)	0.1462 > 0.05	0.9782 > 0.05	0.4684 > 0.05	0.1844 > 0.05
	Result	Common Effect	Common Effect	Common Effect	Common Effect

Source: Processed Primary Data, (2024)

The results in Table 3 show that the Common Effect model is the best model for all Return groups for each era. This decision was based on the results of selecting the best model. Multiple linear regression analysis was conducted to examine the simultaneous and partial effects of the seven macro factors Global Index, Macroeconomic, World Oil, China Index, Arabian Index, Resources Competitiveness, and Inflation on LQ 45 stock returns across the four portfolio groups. The results of the multiple linear regression analysis are presented in Table 4.

Table 4. Multiple Linear Regression Test Results

Variable	SBY High Return	SBY Low Return	JKW High Return	JKW Low Return
c	0.01368	-0.00170	0.02366	0.03854
Global Index	0.02824	0.04418	0.03471	0.03654
Macroeconomics	-0.01364	-0.00948	-0.01968	-0.06108
World Oil	-0.00340	-0.00465	-0.01071	-0.03344
China Index	0.00863	0.01517	0.01660	0.01947
Arabian Index	0.00744	0.00988	-0.01218	0.00709
Resources Competitiveness	-0.00582	-0.00379	0.00629	0.02223
Inflation	0.014375	0.02133	0.01786	0.00330

Source: Processed Primary Data, (2024)

Table 4 presents the regression coefficients of the seven macroeconomic factors across the four portfolio groups. The results indicate that the Global Index consistently shows a positive coefficient across all groups (0.0282; 0.0442; 0.0347; 0.0365), suggesting that an increase in global stock indices is associated with higher LQ 45 stock returns regardless of the presidential period or return group. Similarly, the China Index and Inflation show positive coefficients across all groups, indicating a consistent positive relationship with stock returns.

In contrast, Macroeconomic Indicators and World Oil Prices consistently show negative coefficients across all four groups, implying that deteriorating macroeconomic conditions and rising oil prices tend to reduce LQ 45 stock returns. Notably, the negative effect of Macroeconomic Indicators is substantially stronger in the JKW Low Return group (−0.0611) compared to other groups, suggesting heightened sensitivity to macroeconomic deterioration during this period.

The Arabian Index exhibits a sign reversal between presidential periods positive during the SBY period (0.0074; 0.0099) but negative during the JKW High Return period (−0.0122) indicating a structural shift in the relationship between the Arabian market and Indonesian stock returns across the two regimes. Resources Competitiveness also shows a sign reversal, with negative coefficients during the SBY period (−0.0058; −0.0038) shifting to positive during

the JKW period (0.0063; 0.0222), reflecting the growing importance of commodity competitiveness under the JKW era.

Table 4 shows the Adjusted R-squared value which indicates that the ability of the Global Index, Macroeconomics, World Oil , China Index, Arabian Index, Resources Competitiveness , and inflation variables is still limited in explaining the LQ 45 stock return variable, which consists of high and low return groups in each era.

Table 4. Results of the Determination Coefficient

Adjusted R-squared	SBY High Return	SBY Low Return	JKW High Return	JKW Low Return
	0.152902	0.266828	0.134243	0.172623
Adjusted R-squared (%)	15%	27%	13%	17%

Source: Processed Primary Data, (2024)

Table 5 shows that simultaneously the global index, macroeconomics, World Oil, China index, Arabian index, competitiveness and inflation have a significant effect on the stock returns of the LQ 45 Index in the high and low return groups of SBY and JKW.

Table 5. Simultaneous Results (F)

	SBY High Return	SBY Low Return	JKW High Return	JKW Low Return
F-statistic	25.47079 > 2.020	59.69771 > 2.020	25.49917 > 2.020	14.79994 > 2.030
Prob.(F-statistic)	0.000000 < 0.05	0.000000 < 0.05	0.000000 < 0.05	0.000000 < 0.05

Source: Processed Primary Data (2024)

Table 6 shows the results of the partial hypothesis test (T) to determine how much influence one independent variable has on the variation of the dependent variable using a significance level of 0.05.

Table 6. Partial Results

Variable	t-Statistic	p-Value
<i>SBY High Return</i>		
Global Index	10.191	0.000
Macroeconomics	-1.866	0.062
World Oil	-0.756	0.450
China Index	3.296	0.001
Arabian Index	3.163	0.002
Resources Competitiveness	-1.905	0.057
Inflation	6.269	0.000
<i>SBY Low Return</i>		
Global Index	16.009	0.000
Macroeconomics	-1.208	0.227
World Oil	-0.977	0.329
China Index	5.631	0.000
Arabian Index	4.078	0.000
Resources Competitiveness	-1.212	0.226
Inflation	8.369	0.000
<i>JKW High Return</i>		
Global Index	12.345	0.000
Macroeconomics	-1.245	0.214
World Oil	-1.344	0.179
China Index	4.743	0.000
Arabian Index	-2.808	0.005
Resources Competitiveness	0.874	0.382
Inflation	4.000	0.000
<i>JKW Low Return</i>		
Global Index	8.967	0.000
Macroeconomics	-2.461	0.014
World Oil	-2.780	0.006
China Index	3.672	0.000

Variable	t-Statistic	p-Value
Arabian Index	1.079	0.281
Resources Competitiveness	1.944	0.053
Inflation	0.504	0.615

Source: Processed Primary Data (2024)

Table 6 show the quantile regression results reveal that the Indonesian stock market return is predominantly driven by global factors across both the SBY and JKW, under both high-return and low-return conditions. The Global Index consistently exhibits a positive and significant influence ($p < 0.01$) in all periods, confirming its role as the most dominant determinant of Indonesian stock market movements. Similarly, the China Index shows a persistently positive and significant effect across all regimes, reflecting the strong integration between the Indonesian and Chinese capital markets. Inflation also exerts a positive significant influence in most conditions, with the exception of the low-return period under the JKW era where it becomes insignificant. The Arabian Index presents a notable shift positively significant during the SBY era but turning negatively significant during the high-return period of the JKW era suggesting an evolving sensitivity of the market to Middle Eastern dynamics over time. In contrast, Macroeconomics and World Oil are generally insignificant, except during the low-return period of the JKW era where both demonstrate a negative and significant impact, implying that these factors only become relevant during periods of market deterioration. Resources Competitiveness remains largely insignificant throughout all conditions, indicating a limited role in explaining return variation in the Indonesian stock market. Table 7 shows the results of the regression difference test using dummy variables to show the differences in the influence of high and low returns during the SBY and JKW era periods.

Table 7. Results of the Dummy Variable Regression Difference Test

Variable	SBY High Return vs SBY Low Return	JKW High Return vs JKW Low Return	SBY Low Return vs JKW Low Return	SBY High Return vs JKW High Return
Global Index	0.000 < 0.05	0.716 > 0.05	0.102 > 0.05	0.154 > 0.05
Macroeconomics	0.701 > 0.05	0.168 > 0.05	0.729 > 0.05	0.079 > 0.05
World Oil	0.851 > 0.05	0.123 > 0.05	0.424 > 0.05	0.047 < 0.05
China Index	0.086 > 0.05	0.658 > 0.05	0.068 > 0.05	0.514 > 0.05
Arabian Index	0.477 > 0.05	0.016 < 0.05	0.000 < 0.05	0.723 > 0.05
Resources Competitiveness	0.648 > 0.05	0.248 > 0.05	0.121 > 0.05	0.053 > 0.05
Inflation	0.044 < 0.05	0.072 > 0.05	0.487 > 0.05	0.023 < 0.05

Source: Processed Primary Data (2024)

Table 7 show the dummy variable regression difference test results indicate that most variables do not exhibit statistically significant differences across the compared return regimes, suggesting a generally consistent pattern of influence. However, several notable exceptions emerge. In the comparison between SBY High and SBY Low return periods, the Global Index (0.000) and Inflation (0.044) show significant differences, implying that their effects vary depending on market conditions within the SBY era. When comparing JKW High versus JKW Low return periods, only the Arabian Index (0.016) is significantly different, reflecting a condition-dependent influence of Middle Eastern market dynamics during the Jokowi era. In the cross-era comparison of low-return periods (SBY Low vs JKW Low), the Arabian Index (0.000) again emerges as the sole significant variable, highlighting a structural difference in how the two eras' bearish periods respond to the Arabian market. Finally, the comparison between SBY High and JKW High return periods reveals that World Oil (0.047) and Inflation (0.023) differ significantly, suggesting that the influence of oil prices and inflation during high-return periods is not uniform across the two presidential eras. Overall, these findings underscore that the effects of Global Index, Arabian Index, World Oil, and Inflation are

conditional on both the return regime and the presidential era, rather than being uniformly consistent across all market conditions. Table 8 MAD test results show the MAD value of each group of high return SBY, low return SBY, high return JKW, and low return JKW.

Table 8. Mean Absolute Deviation (MAD) Test Results

Group	MAD
SBY High Return	0.52506
SBY Low Return	0.56990
JKW High Return	0.50817
JKW Low Return	0.16028

The Mean Absolute Deviation (MAD) test results reveal notable differences in return variability across the four groups. The SBY Low Return period records the highest MAD value (0.570), indicating the greatest degree of market fluctuation, suggesting that bearish conditions during the SBY era were accompanied by considerable instability. The SBY High Return period follows closely (0.525), reflecting that even during favorable market conditions, return dispersion remained relatively high throughout the SBY era. In contrast, the JKW High Return period exhibits a lower MAD value (0.508), implying a more stable market environment during high-return conditions under the Jokowi era. Most strikingly, the JKW Low Return period records the lowest MAD value (0.160) by a substantial margin, suggesting that despite subdued returns, the market demonstrated its greatest stability during this period. Overall, these findings indicate that the SBY era was characterized by higher return volatility across both market conditions, while the Jokowi era particularly during low-return periods exhibited considerably lower market dispersion, reflecting a structurally more stable capital market environment.

The Influence of 7 Macro Factors on High and Low Returns of LQ 45 Shares During SBY Era. The global index has a positive and significant effect on LQ 45 stock returns. Therefore, the first hypothesis is accepted, as the index provides a snapshot of economic conditions in various countries, which can impact the Indonesian economy. Indonesia has diplomatic relations with many countries. Therefore, an increase in the global index can positively impact LQ 45 stock returns. The results of this study are comparable to previous research by (Deitiana & Stella, 2009; Oktarina, 2016) that the KOSPI Index and the Nikkei 225 Index had a significant positive impact on the ICI.

Macroeconomics has no effect on LQ 45 stock returns. Therefore, the first hypothesis is rejected. This suggests that stock price increases are not influenced by macroeconomic improvements, as efforts to establish Indonesia as a top investment destination have convinced investors to remain optimistic about the growth of the Indonesian stock market. This suggests that investors are not overly sensitive to news impacting the macroeconomy. The results of this study are consistent with previous research, which found that SBI interest rates and gold prices had no effect on the JCI movement (Maulidi Syarif & Asandimitra, 2015). This is due to Indonesian investors' tendency to engage in short-term stock transactions, such as speculation or trading. As a result, they typically seek profits in the hope of achieving high capital gains in the stock market rather than investing in gold or SBI.

Global oil prices had no effect on LQ 45 stock returns. Therefore, the first hypothesis was rejected. This suggests that rising global oil prices do not affect stock prices because most mining companies are included in the LQ 45 Index, few, and sometimes none at all. The results of this study are comparable to previous research conducted by (Istamar et al., 2019; P. P. Putri & Rizal, 2019) Global oil prices have no impact on the Jakarta Composite Index (JCI) and the Jakarta Stock Exchange (JII) on the Indonesian stock exchange. This means that in unstable geopolitical conditions, oil prices can spike sharply and then plummet. Businesses worldwide will experience changes due to this geopolitical momentum and shift, and investors will also shift to safer sectors.

The China Index has a positive and significant effect on LQ 45 stock returns. Therefore, the first hypothesis is accepted. This indicates that an increase in stock returns will be followed by an increase in the China Index. Because China is Indonesia's main trading partner,

particularly in terms of exports and imports, the Chinese capital market is highly attractive to global investors due to its largest population in the world and its remarkable economic growth. The results of this study are comparable to those of other studies (I Gusti Agus Andiyasa et al., 2014; Triyono et al., 2016). The Shanghai Index has a positive influence on the movement of the JCI.

The Arabian Index has a positive and significant effect on LQ 45 stock returns. Therefore, the first hypothesis is accepted. This indicates that higher stock returns will be followed by an increase in the Arabian Index. This is because economic conditions, culture, and political policies all influence the stock market. Investors' investment decisions are influenced by events both domestically and internationally. As a predominantly Muslim country, Indonesia maintains diplomatic relations with Arabian countries. Consequently, the stock market will be influenced by events or activities related to Arabian countries. Investors will choose stocks with high profit potential but also high risk. The results of this study contradict previous research, which found that the TASI negatively impacted the SSI price index (Kustina & Rakhmat, 2020) or findings from other studies that the Jakarta Islamic Index is not affected by TASI (Anwar et al., 2018).

Resources Competitiveness have no effect on LQ 45 stock returns. Therefore, the first hypothesis is rejected. This indicates that Resources Competitiveness do not affect stock returns because Resources Competitiveness, such as nickel, only impact mining companies. Consequently, if nickel prices rise or fall, it will certainly impact mining companies, as only a few mining companies were included in the LQ 45 Index during the study period. This finding contradicts previous research that found the JCI mining index was negatively affected by nickel prices (Resources Competitiveness) in both the short and long term (Prastyo & Sertiartiti, 2018). Or other research states that Resources Competitiveness (nickel prices) have a positive effect on stock returns in the mining sector (13).

Inflation has a positive and significant effect on LQ 45 stock returns. Therefore, the first hypothesis is accepted. Because stocks can be considered capital goods, stock price movements will align with general price movements, as the inflation rate represents an increase in the overall price of goods. Therefore, when inflation increases, stock prices will also increase to offset the decline in the value of investors' money. This study's findings align with previous research that found that the JCI movement benefits from inflation (Oktarina, 2016) And other research states that inflation has a positive impact on stock prices (Satoto & Budiwati, 2013).

The Influence of 7 Macro Factors on High and Low Returns of LQ 45 Stocks During JKW Era. The global index has a positive and significant effect on LQ 45 stock returns. Therefore, the first hypothesis is accepted. The results of this study are consistent with previous research, which found that the Dow Jones Index has a positive impact on the JCI. (Harfikawati, 2016) Because the Dow Jones Industrial Average is the world's largest stock index, its trends can impact almost every stock index worldwide. Other research indicates that the Jakarta Composite Index (JCI) is significantly positively influenced by the KLCI Index. (Hartantio, 2020). Since Malaysia and Indonesia are close to each other and both are members of ASEAN that cooperate in various fields, this positive relationship is very important.

Macroeconomics has no effect on high returns on LQ 45 stocks. Therefore, the first hypothesis is rejected. Meanwhile, macroeconomics has a negative and significant effect on low returns on LQ 45 stocks. Therefore, the first hypothesis is accepted. The results of previous research are comparable to the results of the JKW high-return study. The Fed's interest rate does not affect the IHSS for property, real estate, and construction (Jayanti et al., 2019). Investors may make different decisions because they only see changes in the Fed rate, while others see the difference between the BI rate and the Fed rate. Consequently, the Description may differ. Previous research findings, similar to those of JKW low-return study, show that the BI rate and money supply have a significant negative effect on the JCI (C. Y. Wibowo & Aminda, 2021). This suggests that a decline in stock returns will follow an improvement in the macroeconomic environment. This is because macroeconomic conditions can impact a company's profit margins.

Global oil prices have no effect on high returns on LQ 45 stocks. Therefore, the first hypothesis is rejected. Meanwhile, global oil prices have a negative and significant effect on low returns on LQ 45 stocks. Therefore, the first hypothesis is accepted. Other research findings are consistent with the findings of the JKW high-return study, indicating that the JCI is unaffected by global oil prices (I. P. Dewi, 2020). And the results of previous research are comparable to the findings of JKW low return research, world oil prices have a negative and significant effect on the SSI Index (Sumatrani Saragih et al., 2021). This suggests that rising global oil prices will be followed by declining stock returns. This is because rising oil prices will gradually increase business operating costs, which in turn will increase output prices, which in turn will reduce demand and business profits.

The China Index has a positive and significant effect on LQ 45 stock returns. Therefore, the first hypothesis is accepted. The results of this study are consistent with previous research, which found that the ISSE has a positive effect on the Sri Kehati Index (Hermawan & Purwohandoko, 2020). Following the signing of the ASEAN-China Free Trade Agreement (ACFTA), China and Indonesia have established significant trade cooperation. Consequently, the ISSE has increasingly influenced the Sri Kehati Index. Furthermore, other research has shown that the SSEC has a positive impact on stock price index in the property, real estate, and construction industries (Jayanti et al., 2019). Due to Indonesia's high import and export volumes to China, the SSEC benefits the stock price index of the property, real estate, and construction sectors. Indonesia's non-oil and gas exports to China increased 15% in 2018, according to data released by the Indonesian Ministry of Trade. China ranks third in Indonesia as the largest investor. The property and construction industries benefit from Chinese foreign capital.

The Arabian Index has a negative and significant effect on high returns on LQ 45 stocks. Therefore, the first hypothesis is accepted. Meanwhile, the Arabian Index has no effect on low returns on LQ 45 stocks. Therefore, the first hypothesis is rejected. Previous research, comparable to the findings of the JKW high-return study, shows that TASI has a negative and significant effect on the Indonesian Sharia stock price index (Kustina & Rakhmat, 2020). This suggests that a decline in stock returns will follow a rise in the Arabian Index. This is due to the fact that Arabian economies are more advanced than Indonesia's and have a higher level of resilience to economic crises. Therefore, investors who invest their money in Arabian stock markets tend to have greater confidence in the event of a global economic crisis. Furthermore, other research findings are consistent with the findings of the JKW low-return study; TASI does not affect the JII. This suggests that stock returns are not affected by the Arabian Index (Samsul Anwar et al., 2018). Therefore, the price trends of the Arabian stock index and the Indonesian LQ 45 index will differ due to the company's internal and external conditions.

Resources Competitiveness have no effect on LQ 45 stock returns. Therefore, the first hypothesis is rejected. The results of this study contradict the findings of other studies.(Wukagani et al., 2018).

Inflation has a positive and significant effect on high returns on LQ 45 stocks. Therefore, the first hypothesis is accepted. Meanwhile, inflation has no effect on low returns on LQ 45 stocks. Therefore, the first hypothesis is rejected. The results of previous research are consistent with the findings of the JKW high-return study, indicating that the JCI is positively affected by inflation (Swandari, 2023). Companies can increase product costs to consumers by a higher percentage if inflation has a positive effect, increasing company profits. Other research findings are comparable to the findings of JKW low-return study, where the JCI is unaffected by inflation (I. P. Dewi, 2020). This suggests that stock returns are unaffected by rising or falling inflation. This may be because investors are already aware of rising or falling inflation, so they are less concerned about changes in stock prices.

The difference test in Table 7 shows a difference in the influence of high and low returns during SBY presidency. The results indicate that macroeconomic variables, world oil prices, the China Index, the Arabian Index, and Resources Competitiveness have no significant effect.

However, the global index and inflation variables have different effects on high and low returns on LQ 45 stocks during SBY presidency.

CONCLUSION

Conclusion

This study examined whether seven macroeconomic factors price LQ45 stock returns, whether their influence differs across the Yudhoyono and Widodo presidencies, and how accurately the Arbitrage Pricing Theory model predicts returns across high- and low-return groups. On the first question, the seven factors are jointly significant for returns in every group, yet they explain only 13 to 27 percent of return variation; the Global Index and the China Index are the only factors that remain significant across all groups, whereas the Arabian Index, Macroeconomic Indicators, World Oil, and Resource Competitiveness are significant only under particular regimes or return conditions. The evidence therefore offers partial, context-dependent support for the Arbitrage Pricing Theory in the Indonesian market rather than strong confirmation. On the second question, most factors do not differ significantly between the two presidencies, indicating a broadly stable pricing pattern, with regime-specific differences confined to the Global Index, Inflation, World Oil, and the Arabian Index under specific conditions. On the third question, the model produced its lowest prediction error in the Widodo low-return group and its highest error in the Yudhoyono low-return group; this reflects the model's forecasting accuracy for that group and should not be interpreted as evidence that the market itself was more stable. Beyond answering these questions, the study contributes to the understanding of factor pricing in emerging markets by showing that the explanatory and predictive performance of the Arbitrage Pricing Theory in Indonesia is not uniform but conditional on the return group and the political-economic regime, and by demonstrating that a large set of macroeconomic variables can be condensed into a smaller set of interpretable factors while preserving the model's discriminating ability. For investors and portfolio managers, the findings suggest that global and regional index movements are the most reliable macroeconomic signals for LQ45 returns, while domestic and commodity-related factors become relevant mainly under adverse market conditions. Because the explained variation is low and the relationships are regime-dependent, these signals should be treated as one input among several, and the model should not be regarded as a guarantee of investment performance.

Limitations

This study has several limitations. The sample was restricted to stocks continuously listed in the LQ45 Index throughout each presidency, yielding only 23 stocks for the Yudhoyono period and 35 for the Widodo period, which introduces survivorship bias and limits generalizability to the broader market. The binary classification into high- and low-return groups simplifies the underlying return distribution, and the use of monthly data may obscure shorter-term dynamics. Factor extraction through Principal Component Analysis, while effective for reducing dimensionality, entails some loss of information in interpreting each component. Finally, the analysis did not explicitly model structural breaks within each era, such as the COVID-19 pandemic or global commodity shocks, which may have independently influenced returns. The findings should therefore be interpreted within the scope of this study.

Recommendations

Future research could extend the sample beyond the LQ45 Index to broader or sector-specific portfolios to test the generalizability of the findings, and could replace the binary grouping with continuous quantile regression to examine factor effects across the full return distribution. Incorporating structural-break analysis and out-of-sample validation, adding accuracy measures such as the root mean squared error, and including additional variables such as geopolitical-risk or digital-economy indicators would further strengthen the model.

Comparative studies across other ASEAN emerging markets would also help assess the regional applicability of the results.

Author Contributions

All authors made significant contributions to this study, including research conceptualization, development of the theoretical framework, data collection, data analysis, interpretation of results, manuscript preparation, scholarly revision, and final approval of the manuscript for publication. All authors confirm that they have read and approved the final version of the article.

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