DO MACROECONOMIC FACTORS AFFECT THE COMBINED STOCK PRICE INDEX?

Milka Rositi Sianipar¹, Alicia Ulina Susilowati², Ayu Bonita Sari Tumangger³, Jenti Natalia Silaban⁴, Amin Hou⁵*, Rosita⁶

¹,²,³,⁴,⁵ Faculty of Economics, Universitas Prima Indonesia, Sumatera Utara, Indonesia.
⁶ Faculty of Social Sciences, Universitas Mahkota Tricom Unggul, Sumatera Utara, Indonesia.

*E-mail: ¹milkarositi.sianipar@unprimdn.ac.id, ²aliciajongg9@gmail.com,
³ayubonitasaritumangger@gmail.com, ⁴jentisilaban061202@gmail.com,
⁵aminhoucinleng@gmail.com, ⁶rosita@unprimdn.ac.id

Abstract
The movement of the stock market index is a barometer of economic growth, and can be used to make investment decisions. Many factors influence the movement of a stock index, particularly from the macroeconomic perspective. This study analyzes the effects of BI rate, exchange rate, and inflation on the Composite Stock Price Index (CSPI). This research is a quantitative descriptive study conducted on food and beverage companies listed on the Indonesia Stock Exchange (IDX) during the 2018-2022 period. Sixty companies were sampled and analyzed using multiple linear regression tests. Hypothesis testing uses the $R^2$ (coefficient of determination) test, $F$, and $t$-tests. The results show that BI and exchange rates have a partially significant effect on CSPI. Inflation did not have a significant effect on the CSPI. However, simultaneous testing showed that the three variables affected the CSPI.

Keywords: BI rate, exchange rate, inflation, Composite Stock Price Index

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INTRODUCTION

The capital market plays a crucial role in a country's economy as it serves as a means of capital formation and long-term fund accumulation (Ahmed & Mmolainyane, 2014; Chikwira & Mohammed, 2023; El Wassal, 2013). In addition, the capital market evaluates the conditions of companies within a country (Hassan, 2013). Stock market performance indicators are effective in determining economic trends (Sulong et al. 2018). Companies require substantial funding for various activities. One of the methods employed by companies to augment external funding is to issue shares in the capital market to the public (Boateng et al., 2022; Melan et al., 2023).

The capital market on the Indonesia Stock Exchange (IDX) is the most effective platform for facilitating interactions between companies and investors, allowing the latter to invest capital and realize profits. Fluctuations in stock prices listed on the Indonesia Stock Exchange are represented by the Composite Stock Price Index/Indeks Harga Saham Gabungan (IDX Composite/IHSG). The IDX Composite illustrates the trend in stock price changes over time based on compiled and processed stock price index figures, thereby providing valuable information to the public (Hartono, 2017). Changes in stock prices can be influenced by company performance and responses to macroeconomic factors (Puspitaningtyas, 2020; Puspitaningtyas, 2017).

Various factors have been identified as influence a stock index. Mariappan and Hari (2013) identified variables such as industrial production, foreign corporate investment, exchange rates, bank interest rates, unemployment rates, credit ratings, and national development status. Other studies have emphasized the impact of inflation, money supply, and exchange rates on stock returns in the Malaysian financial sector (Shamsudin et al., 2021). Interest, inflation, and corporate tax rates affect the stock prices of Pakistani companies (Khan, 2018). Several studies in Indonesia have also reported factors that affect the stock index. Susilo et al. (2020) reported a significant positive impact of the Dow Jones Industrial Average (DJIA) and Hang Seng Index on IHSG, while the Nikkei 225 index did not. Other findings suggest that the BI rate also affects the stock index, but its influence may be complex and influenced by other factors (Yusuf et al., 2021). Prawoto and Putra (2020) identified a negative influence of DJIA and the Fed Rate on IHSG, while inflation, exchange rates, and world oil prices had a positive impact. Pinem's (2019) results indicate the influence of global stock indices, foreign exchange rates, and interest rates on the IHSG. Yuliadi (2021) highlighted the negative impact of inflation and exchange rates, and the positive impact of interest rates and world oil prices on IHSG. These studies indicate that a combination of macroeconomic, financial, and market-specific factors can significantly influence stock indices.

Bank Indonesia’s data for 2018-2022 shows fluctuating trends, particularly during the pandemic. In 2020, the Composite Stock Price Index (CSPI) declined from the previous year, reaching 3979.073242. An increasing trend is observed from 2021 (6581.481934) to 2022 (6850.619141). Meanwhile, the BI rate decreased by 5.00% in 2019 and experienced another decline in the following year, 2020, at 3.75%. In 2021, the BI rate also decreased to 3.50% but increased to 5.50% in 2022. The exchange rate of 1 USD to Rupiah from to 2018-2022 fluctuated, with an increase in 2019 to 13,970.51 from the previous year, followed by a further increase in 2020 to 14,175.53. In 2021, the exchange rate will increase to 14,340.35, and in 2022, it will rise to 14,349.39. Indonesia's BI rate data for 2018-2022 indeed indicates significant fluctuations. In 2019, Indonesia's BI rate had decreased to 2.72% from the previous year (3.13 %). The fluctuating trend in the Indonesian stock market, especially during the pandemic, underscores the need for further research on the impact of BI rates, exchange rates, and inflation on CSPI. Understanding the factors influencing CSPI can provide information for informed investment decisions and a comprehensive understanding of the Indonesian stock market.

LITERATURE REVIEW

The BI rate, or Bank Indonesia Rate, is a key monetary policy tool used by the Central Bank of Indonesia to control inflation and stabilize the economy (Huruta, 2018; Yodiatmaja, 2012). It is not directly influenced by external factors such as the US Federal Fund Rate, but is instead driven by internal factors such as GDP growth and monetary policy.
(Huruta, 2018). The BI rate has a causal relationship with inflation, with changes in the BI rate affecting inflation levels within two months, and vice versa (Yodiatmaja, 2012). This underscores the importance of the BI rate in managing inflation and economic stability in Indonesia.

Exchange rates, the value of one currency in terms of another, are a key focus of recent literature. Taylor (1995) and Sarno et al. (2003) both provide comprehensive reviews of the field, highlighting the challenges and open questions that remain. Devereux (1997) and Burstein & Gopinath (2014) contribute to the discussion by emphasizing the relevance of macroeconomic models and the relationship between prices and exchange rates. These studies collectively underscore the complexity of exchange rate determination and the need for further research in this area.

Inflation is a sustained increase in the general price level of goods and services in an economy over time, leading to a reduction in the purchasing power of money (Bonab, 2019). This phenomenon is not limited to specific goods or seasonal price increases, but rather affects the overall economy (Fahlevi et al., 2020). It is a significant concern due to its impact on the value of money and its role in coordinating economic activity (Laidler & Parkin, 1975). Factors such as the growth of the money supply and investment in market production, infrastructure, education, and preventative health care can influence the rate of inflation (Bonab, 2019).

The Composite Stock Price Index (CSPI) is a key indicator of stock market performance, influenced by various macroeconomic factors (Yunanto & Medyawati, 2021). Recent literature has consistently shown that exchange rates, inflation, and BI rate have a significant impact on the CSPI. Apituley (2018) found a negative correlation between inflation and the CSPI, while Fatmala & Hariasih (2023) and Yusuf et al. (2021) both identified a positive relationship between interest rates and the CSPI. Additionally, Yusuf et al. (2021) highlighted the negative influence of the BI rate on the CSPI. Pinem (2019) further emphasized the significant impact of global stock indices, foreign exchange rates, and inflation on the CSPI. These findings underscore the complex and multifaceted nature of the factors influencing the CSPI.

METHOD
This study constitutes a quantitative descriptive study of companies in the food and beverage sector listed on the Indonesia Stock Exchange (IDX) from 2018 to 2022. Company data was accessed through the website www.idx.co.id, and the study was conducted in January 2023. The population examined includes all monthly time-series data covering the BI rate, exchange rate, inflation, and Composite Stock Price Index (CSPI) from January 2018 to December 2022, amounting to 60 samples. A purposive sampling technique was employed to select the samples.

The variables investigated and forming the research hypotheses include BI rate (X1), exchange rate (X2), inflation (X3), and Composite Stock Price Index (CSPI or Y). The BI rate represents the reference interest rate set by Bank Indonesia (BI), obtained from monthly data and announced monthly at the Board of Governors meeting. The exchange rate reflects the exchange price between the currencies. It is used in various transactions, including international trade and short-term currency rules between countries that cross geographical or legal boundaries. The inflation rate depicts the changes in prices from one year to another. The Composite Stock Price Index (CSPI or IHSG) covers all stocks listed on the Indonesian Stock Exchange.

For data collection, the researcher utilized secondary data from financial reports and related documents associated with the stock price index published by the official website of the Indonesia Stock Exchange (IDX) during 2018-2022. Before statistical testing of the data, the researcher performed classical assumption tests such as normality, multicollinearity, autocorrelation, and heteroskedasticity tests. After ensuring that all the classical assumptions were met, the researcher conducted a multiple linear regression test. Hypothesis testing proceeded with the R² test (coefficient of determination), F-test, and t-test. The data were then presented in tabular and narrative forms.

RESULTS AND DISCUSSION
Sixty samples that met the inclusion criteria were included in the data analysis. The
Kolmogorov–Smirnov test indicated that the data were normally distributed (0.062 > 0.05). All independent variables had a tolerance > 0.1 and VIF values < 10, indicating the absence of multicollinearity issues. The autocorrelation test results showed a Durbin-Watson value of 1.941. The calculated value (d) is greater than the critical value (du) in the Durbin-Watson table, where du is 1.941, and 4–du (4 – 1.941 = 2.059). Therefore, it can be concluded that there was no autocorrelation problem. All independent variables (BI rate, exchange rate, and inflation) had residual significance values greater than 0.05, indicating the absence of heteroscedasticity. Statistically, this model is suitable for multiple linear regression analyses.

Table 1. Coefficient of Determination

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R^2</th>
<th>Adjusted R^2</th>
<th>Std. Error of Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.648</td>
<td>0.419</td>
<td>0.388</td>
<td>1.81963</td>
</tr>
</tbody>
</table>

In Table 1, the R^2 value is 0.419 (41.9 %), suggesting that the influence of the BI rate, exchange rate, and inflation on the Composite Stock Price Index (IHSG) was 58.1%. Other factors also influenced the remaining percentages. Table 2 shows that the calculated F value was 13.483 and the critical F value was 2.54. This indicates that the BI rate, exchange rate, and inflation significantly impact IHSG. In conclusion, as the BI rate, exchange rate, and inflation increase, IHSG is likely to decrease.

Table 2. F-Statistic test

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Regression</td>
<td>133,930</td>
<td>44,643</td>
<td>13,483</td>
<td>0.000</td>
</tr>
<tr>
<td>Residual</td>
<td>185,419</td>
<td>3,311</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>319,349</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The t-test results indicate that the t-value was greater than the t-table value (2.003) for the BI rate variable (4.857) (see Table 3). Therefore, it can be concluded that the BI rate has a positive and significant partial effect on the Composite Stock Price Index (IHSG). However, Qodri's (2015) study showed a significant negative impact of the BI rate on IHSG. An increasing BI rate can influence investor interest in various instruments. When the BI rate increases, returns on interest-related investments such as deposits also tend to rise, attracting investors to shift their funds from stocks to deposits. This can lead to a decline in stock prices as many investors move to deposits, offering higher interest rates (Suryanto, 2013).

Table 3. Result of t test

<table>
<thead>
<tr>
<th>Model</th>
<th>B</th>
<th>Error</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Constant)</td>
<td>86,863</td>
<td>18,723</td>
<td>4,639</td>
<td>.000</td>
</tr>
<tr>
<td>BI rate (X1)</td>
<td>6,092</td>
<td>1,254</td>
<td>4,857</td>
<td>.000</td>
</tr>
<tr>
<td>Exchange rate (X2)</td>
<td>3,442</td>
<td>2,035</td>
<td>3,692</td>
<td>.010</td>
</tr>
<tr>
<td>Inflation (X3)</td>
<td>.501</td>
<td>.379</td>
<td>1,322</td>
<td>.191</td>
</tr>
</tbody>
</table>

The t-test results indicate that the t-value is greater than the t-table value (2.003 for the exchange rate variable (3.692). Therefore, it can be concluded that the exchange rate has a positive and significant partial effect on the Composite Stock Price Index (IHSG). The literature suggests that changes in exchange rates can significantly impact stock prices, with short-term and asymmetric effects. Different business sectors may react differently to changes in macroeconomic variables, and changes in the exchange rate have asymmetric effects on stock price indices across various sectors in the U.S. (Bahmani-Oskooee and Saha, 2016). Some studies indicate that the Rupiah exchange rate has a positive and significant impact on the IHSG (Ramadhan et al., 2022; Saputro & Gustyana, 2021; Wismantara & Darmayanti, 2017). Fluctuations in the exchange rate can influence investment conditions and company performance, subsequently affecting the IHSG (Mukhtar & Zahra, 2022). Therefore, changes in the exchange rate can provide crucial signals for
investors to assess the economic performance of a country and the stocks traded on the exchange.

In this study, inflation partially but not significantly impacts IHSG because the t-value (1.322) is smaller than the t-table value (2.003). Depending on the specific studies and periods, inflation can have varying impacts on the IHSG. One study found that inflation had a negative and insignificant impact on the IHSG (Kusuma & Badjra, 2016). Additionally, other studies indicate that inflation does not partially affect the IHSG (Saputro & Gustyana, 2021). Increasing inflation can lead to an immediate negative response in the market, causing sluggishness in the stock market due to reduced market demand and declining purchasing power (Gojali et al., 2021). An increase in inflation is a relatively negative signal for capital market investors. Inflation increases companies' incomes and costs. If the increase in production costs is greater than the increase in prices that companies can enjoy, their profitability will decrease. Decreased profitability reduces investor interest in investing capital in the company. The results indicate that profitability negatively impacts a company's capital structure; thus, an increase in profitability reduces the value of the capital structure (Pangestuti, 2023; Tandelilin, 2007).

CONCLUSIONS AND SUGGESTIONS

These results indicate that the inflation rate does not have a significant or negative impact. By contrast, BI and exchange rates positively and significantly impact the Composite Stock Price Index (IHSG). Simultaneously, the BI rate, exchange rate, and inflation significantly impact 58.1% of the variance. At the same time, the remaining portion is attributed to other variables not examined in this study. To maximize returns, investors could consider investing in stocks that are positively impacted by the BI rate and exchange rates. Investors could also consider diversifying their portfolio by investing in stocks that are not significantly impacted by inflation. It is important to note that the study did not examine all variables that could impact the IHSG. Therefore, investors should conduct further research before making any investment decisions.

REFERENCES


Devereux, M. B. (1997). Real Exchange Rates and Macroeconomics: Evidence and


