



Impact of Inflation, Forex Reserves, and Exchange Rates on the Composite Stock Price Index of Manufacturing Firms in Indonesia

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Abstract

This study aims to analyze the influence of macroeconomic factors, namely inflation, foreign exchange reserves, and exchange rates, on the Composite Stock Price Index (IHSG) in Indonesia. The study utilizes secondary data, including IHSG, inflation rates, foreign exchange reserves, and exchange rate fluctuations on the Indonesia Stock Exchange (IDX), and employs multiple linear regression analysis to assess the relationships among these variables. The research adopts a descriptive quantitative approach to systematically describe and interpret the data. The findings reveal that inflation has a positive and significant impact on IHSG, suggesting that rising inflation can stimulate stock market performance under certain conditions. Likewise, the exchange rate demonstrates a positive correlation with IHSG, indicating that currency appreciation may enhance investor confidence and stock price growth. Furthermore, foreign exchange reserves are positively associated with IHSG, reflecting the stabilizing effect of a strong reserve position on financial markets. These results align with existing financial theories that highlight the interconnectedness of macroeconomic stability and stock market performance. The study provides valuable insights for investors, policymakers, and market analysts regarding the macroeconomic determinants of stock market movements. Future research is encouraged to expand the scope by incorporating additional variables, such as interest rates, monetary policy interventions, and global economic trends, to further enhance the understanding of factors influencing IHSG dynamics.

1. Introduction

A manufacturing company is an enterprise engaged in the production of goods through various processes, transforming raw materials into finished products that are ready for sale. A company is classified as a manufacturing company if it follows the stages of input, process, and final output. Manufacturing is a branch of industry that utilizes equipment and systematic processes to convert raw materials into goods with added value.

The Composite Stock Price Index (IHSG) is one of the key stock market indices used by the Indonesia Stock Exchange (IDX). It reflects stock price movements in the market through an auction-based trading system. The base value of the index is subject to adjustments when capital changes occur or when external factors influence the market independent of stock prices. To ensure that the IHSG accurately represents market conditions, the IDX has the authority to include or exclude certain listed companies from its calculation. The criteria for this selection

include the proportion of publicly owned shares and the market capitalization of a company, which may significantly impact the fairness of IHSG movements.

The IHSG serves three primary functions: (1) as a market direction indicator, representing the overall market performance by incorporating almost all listed stocks on the IDX; (2) as a benchmark for measuring investment profitability—investors can assess average returns from stock market investments over specific periods; and (3) as a reference for evaluating portfolio performance. For instance, if an investor's portfolio underperforms compared to the IHSG's growth over a specific period, strategic adjustments may be necessary.

One of the key macroeconomic variables influencing stock market performance is inflation. Inflation refers to the general increase in prices of goods and services over a specific period (Case et al., 1999). A positive relationship exists between inflation and stock prices, as higher inflation often leads to increased revenue



and profitability for companies, thereby raising their stock prices. Several studies have explored the impact of inflation on stock returns. Ajayi et al. (1996) investigated the relationship between stock prices and macroeconomic variables, including exchange rates, across major global stock markets such as Canada, France, Germany, Italy, Japan, the Netherlands, the United Kingdom, and the United States. Their findings indicated a significant relationship between exchange rates and stock prices, a conclusion later supported by Kurniasari (2003), who demonstrated that the Indonesian Rupiah exchange rate significantly influences the IHSG.

Fluctuations in exchange rates can also impact stock prices. A depreciation of the local currency can increase export volumes, leading to higher cash flows for domestic companies and, consequently, rising stock prices reflected in the IHSG. Conversely, companies that rely on imported materials or have significant foreign currency debt may experience stock price declines when the domestic currency depreciates. Studies on the relationship between exchange rates, interest rates, and stock prices have yielded mixed results. Gupta (2000) found no causal relationship between these variables in Indonesia during the 1993–1997 period, a finding consistent with Budilaksono (2005). However, Sitingjak et al. (2003) reported that exchange rates and interest rates significantly influenced the IHSG, while inflation did not. In contrast, Saadat et al. (2006) suggested no significant dynamic interaction between stock prices and exchange rates.

Another critical macroeconomic factor affecting stock market stability is foreign exchange reserves, which serve as a safeguard for international transactions and economic stability (Lipsey, 1990). A country's foreign exchange reserves are deemed sufficient if they can cover at least three months of imports. If reserves fall below this threshold, economic vulnerability increases, leading to reduced investor confidence and potential currency depreciation. Indonesia experienced this challenge during the 1998 financial crisis when

foreign exchange reserves dropped from 23.90 trillion rupiah to approximately 16.01 billion US dollars by September 1999 (Tambunan, 2000). A continued decline in foreign exchange reserves may weaken a country's economic position, making it more susceptible to financial instability.

Understanding the impact of macroeconomic variables such as inflation, exchange rates, interest rates, and foreign exchange reserves on stock market performance is crucial for policymakers, investors, and financial analysts. This study aims to examine the relationship between these macroeconomic factors and the IHSG, providing insights into their influence on stock market dynamics in Indonesia.

2. Literature review

2.1 Capital Market

The capital market is a financial market for long-term funds and operates as a concrete market. Long-term funds refer to funds that mature in more than one year. In a narrow sense, the capital market is a structured physical marketplace where securities are traded, known as the stock exchange. A stock exchange is an organized system that facilitates transactions between buyers and sellers of securities, conducted either directly or indirectly. Securities refer to any valuable documents issued by companies, such as debt certificates, rights certificates, and warrants (Susilo, 2000:189).

According to Capital Market Law No. 8 of 1995, the capital market encompasses activities related to public offerings and the trading of securities, as well as entities associated with issued securities and the related institutions and professions. Darmadji et al. define the capital market as a marketplace for various long-term financial instruments that can be traded, whether in the form of debt or equity.

Samsul (2006:43) describes the capital market as a meeting point between supply and demand for long-term financial instruments, typically those with maturities exceeding one year. According to Tandelilin (2007:13), the



capital market serves as an intermediary between parties with excess funds and those in need of funds, facilitated through the trading of securities. Hence, the capital market can be interpreted as a marketplace for securities that generally have maturities exceeding one year, such as stocks and bonds.

Subagyo (2005:183) defines the capital market as a place where buyers and sellers interact. The products traded in the capital market include company ownership rights (equity) and corporate debt instruments. Investors in the capital market can be individuals, organizations, or institutions willing to allocate surplus funds for investment activities. Investment in the capital market involves purchasing traded instruments such as stocks and bonds with the expectation of future returns. Meanwhile, capital sellers are companies that require additional capital for their business operations.

In general, the capital market serves as an intermediary between entities with surplus funds and those requiring funding. Transactions in this market involve financial instruments such as ownership rights (stocks) and debt certificates (bonds). Investors benefit from ownership-based investments through dividends, whereas debt-based investments provide returns in the form of interest payments (coupons). Capital market instruments consist of securities that can be resold by the owner, either as equity or debt instruments. Equity instruments are represented by stocks, while debt instruments are represented by bonds (Kasmir, 2008:209).

Each type of capital market instrument is explained as follows:

1. **Stocks** Stocks are securities that represent ownership in a company. The larger the shareholding, the greater the investor's influence within the company. The primary benefit of stock ownership is receiving dividends.
2. **Bonds** Bonds are debt instruments issued by companies seeking capital. The return on bond investments is derived from coupon

payments. Unlike stocks, bonds do not grant holders management rights or ownership stakes in the issuing company.

Subagyo (2005:188) classifies capital market instruments into three main categories:

1. **Stocks** Stocks are one of the most commonly traded securities in the capital market, representing ownership in a limited liability company. Benefits from stock ownership include dividends, capital gains, and non-financial advantages.
2. **Bonds** Bonds are debt certificates issued by companies, which must be repaid upon maturity along with interest payments. The returns from bonds are based on predetermined interest rates paid by the issuing company.
3. **Derivative Securities** In addition to stocks and bonds, derivative securities such as options, warrants, and rights can also be used as investment instruments. These derivatives provide investors with additional financial instruments to manage risk and optimize returns.

In summary, the capital market offers various instruments to investors, primarily in the form of ownership (stocks) and debt certificates (bonds). Derivative securities further enhance the range of investment options available to market participants.

2.2 Composite Stock Price Index (IHSG)

The Composite Stock Price Index (IHSG) includes all shares listed on the Jakarta Stock Exchange as a component in index calculations and as an indicator of price movements for both common and preferred stocks (Sawidji, 2006:241). The Indonesian Stock Exchange defines IHSG as an indicator of share price movements for all stocks listed on the exchange. Darmawan (2009:38) states that IHSG provides an overall depiction of stock price movements on an exchange at a given time, compared to previous periods, allowing for trend analysis of price increases or declines. Muzammil (2011:39) emphasizes that an index serves as a key indicator describing daily stock price



movements, calculated using the closing prices recorded on the exchange.

IHSG represents the capital market conditions over time and serves as an analytical tool. It aggregates the performance of multiple listed stocks, making it a comprehensive measure of stock market trends (Muzammil, 2011:39). It is widely used as a benchmark for tracking stock performance on the Indonesian Stock Exchange (IDX).

2.3 Inflation Inflation is a general and continuous increase in the prices of goods and services. Inflation is characterized by three key factors:

- a. **Price Increase** Inflation occurs when prices rise significantly over a period. For example, if fuel prices increase from Rp. 35,000 per liter to Rp. 45,000 per liter, this represents a notable price hike.
- b. **General Impact** A price increase is considered inflationary only if it affects the general price level. For example, a rise in fuel prices often leads to higher transportation fares and increased costs for essential goods.
- c. **Continuous Rise** Inflation must be persistent over time, typically measured on a monthly basis.

Types of inflation based on its causes include:

1. **Demand-Pull Inflation** Occurs when economic growth leads to high employment and increased consumer spending, surpassing the economy's production capacity.
2. **Cost-Push Inflation** Arises when production costs increase due to higher wages or raw material prices, resulting in higher prices for goods and services.
3. **Imported Inflation** Occurs when rising prices of imported goods lead to overall price increases, affecting domestic production costs.

2.4 Foreign Exchange Reserves

Foreign exchange reserves are deposits held by central banks in reserve currencies such

as the US dollar, euro, and yen. These reserves serve as a guarantee for local currency stability and fulfill international financial obligations. Foreign exchange reserves are held not only in foreign currencies but also in securities and precious metals (Pinem, 2009:21).

Bank Indonesia, as the central bank of Indonesia, regulates and manages foreign exchange transactions. In 1970, Indonesia adopted a free foreign exchange system, formalized under Law No. 24 of 1999, which replaced the previous foreign exchange regulations outlined in Law No. 32 of 1964.

Foreign exchange reserves are reflected in the monetary balance sheet and are typically assessed based on their ability to cover a country's imports for at least three months. If reserves are insufficient to cover three months of imports, it is considered a vulnerable position.

Since July 2000, Bank Indonesia has adopted the International Reserve and Foreign Currency Liquidity (IRFCL) reporting format, based on the Special Data Dissemination Standard (SDDS) issued by the IMF. Foreign exchange reserves are primarily held in liquid assets such as major international currencies, ensuring their usability in global trade transactions (Pinem, 2009).

3. Method Study

3.1 Research Methods

The method used to obtain the necessary data in this study is documentation, which involves collecting data through structured procedures, including retrieving data from records, documents, and relevant administrative sources related to the research problem.

3.2 Data Sources

This study utilizes secondary data obtained from the Economic Statistics Bulletin published by the Indonesia Stock Exchange (IDX). Secondary data is selected due to its reliability and accessibility in analyzing trends and financial performance.



3.3 Population and Sampling Technique

The population in this study consists of manufacturing companies listed on the Indonesia Stock Exchange. The research employs a purposive sampling technique, selecting samples based on specific criteria to ensure the relevance and accuracy of the data.

3.4 Data Validity and Reliability

To ensure the credibility of the data used, validity and reliability tests are conducted. These tests help confirm that the data is consistent and accurately represents the study's objectives.

3.5 Data Analysis Method

The collected data is analyzed using multiple linear regression analysis with the

assistance of SPSS software. This approach allows for examining relationships between variables and assessing the impact of different financial indicators on company performance.

4. Results and Discussion

4.1 Research result

a. Descriptive Statistics

The study examines manufacturing companies listed on the Indonesia Stock Exchange (IDX) during the 2011–2012 period. Out of 329 listed companies, a purposive sampling method was used to select a sample of 25 companies based on predetermined criteria. Table 4.1 summarizes the descriptive statistics for the key variables used in the analysis.

Table 4.1. Descriptive Statistics

Variable	Minimum	Maximum	Mean	Std. Deviation	N
Current Ratio (CR)	6.3411	13.6491	11.0247	1.96837	46
Debt to Equity Ratio	-4.83966	6.77344	0.0000	2.75601	46
Receivable Turnover (RTO)	-2.379	1.333	0.0000	1.00000	46
Return on Assets (ROA)	-1.696	2.374	0.0000	0.96600	46

Note: The dependent variable for the regression analysis is the natural logarithm of the composite stock price index (LnY). The descriptive analysis provides a baseline for understanding the data distribution. For instance, the Current Ratio (CR) has a mean of 11.0247 with a standard deviation of 1.96837. Confidence intervals could be constructed using the standard error; however, the primary focus in this section is to present the basic statistical properties of the sample.

b. Regression Analysis

A multiple linear regression was conducted using SPSS to assess the influence of inflation, foreign exchange reserves, and exchange rate on the IHSG. The model summary (Table 4.2) indicates an R^2 of 0.338 (adjusted $R^2 = 0.290$), suggesting that approximately 29% of the variability in LnY is explained by the independent variables.

Table 4.2. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.581	0.338	0.290	2.85274	2.694

Table 4.3 shows the ANOVA results for the model, where the regression F value is 7.141 with a significance level of 0.001, indicating that

the model is statistically significant at the 5% level.



Table 4.3. ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	174.351	3	58.117	7.141
	Residual	341.801	42	8.138	
	Total	516.152	45		

Furthermore, the Variance Inflation Factor (VIF) values for each independent variable are below 10, with corresponding tolerance values above 0.1, indicating that multicollinearity is not a concern in this model.

c. Hypothesis Testing and Interpretation of Regression Coefficients

Table 4.4 presents the regression coefficients for the independent variables.

Table 4.4. Regression Coefficients

Predictor	Unstandardized Coefficient (B)	Std. Error	Standardized Coefficient (Beta)	t	Sig.
(Constant)	-5.334	5.592	-	-	0.346
Inflation	1.324	0.454	0.379	2.918	0.006
Foreign Exchange Reserves (CDI)	-0.432	0.214	-0.257	-	0.054
Exchange Rate	1.675	0.594	0.358	2.819	0.007

The estimated regression equation is as follows:

$$IHSG = -5.334 + 1.324 \times \text{Inflation} - 0.432 \times \text{Foreign Exchange Reserves} + 1.675 \times \text{Exchange Rate} + E$$

Interpretation:

- Intercept (-5.334): When the independent variables are zero, the model predicts a composite stock price index (LnY) of -5.334.
- Inflation (Coefficient = 1.324): A one-percentage-point increase in the inflation rate, holding other variables constant, is associated with an increase of 1.324 units in LnY, indicating a positive relationship.
- Foreign Exchange Reserves (Coefficient = -0.432): A one-unit change in foreign exchange reserves is associated with a 0.432 unit decrease in LnY, suggesting an inverse relationship.
- Exchange Rate (Coefficient = 1.675): A one-unit change in the exchange rate leads to an increase of 1.675 units in LnY, implying a positive association.

The t-test results further confirm that the coefficients for Inflation and Exchange Rate are statistically significant at the 5% level ($p < 0.05$), while the coefficient for Foreign Exchange Reserves is marginally significant ($p = 0.054$).

d. Summary and Discussion

The analysis indicates that inflation and exchange rate have a statistically significant positive effect on the composite stock price index (IHSG), while foreign exchange reserves appear to have a negative impact. Although the model explains approximately 29% of the variation in IHSG, further research could explore additional variables that may account for the remaining 71% of the variation. Additionally, the robustness of these findings should be verified through alternative model specifications and extended time periods.

Overall, the results provide valuable insights into the dynamics between macroeconomic variables and the performance of manufacturing companies on the IDX, supporting the relevance



of these factors in understanding market behavior.

4.2 Discussion

a. Inflation and the Composite Stock Price Index (IHSG)

Inflation is defined as a general and continuous increase in the prices of goods and services. It is a major determinant of stock prices in the capital market because high inflation reduces consumers' purchasing power. This decline in purchasing power leads to decreased demand, which in turn affects production activities and ultimately may lower the Gross Domestic Product (GDP). Such economic contractions can have adverse effects on the Composite Stock Price Index (IHSG). Previous research by Atik (2011) indicates that inflation exerts a positive and significant influence on stock prices, as supported by t-test results demonstrating the significant impact of exchange rates and banking interest rates on share prices.

However, some studies have found that inflation does not significantly affect the IHSG. In this study, the F-test results reveal that, when combined with foreign exchange reserves and exchange rates, inflation has a significant impact on stock prices. These findings align with Kristiyawanti (2011), who reported that while some variables exhibit significant relationships with the IHSG, the influence of inflation may manifest as both positive and negative effects.

b. Foreign Exchange Reserve Level and the Composite Stock Price Index (IHSG)

Foreign exchange reserves are the assets held by a country's central bank in foreign currencies (such as the US dollar, euro, or yen), along with other valuable instruments like gold. These reserves serve to guarantee the country's monetary obligations and help stabilize the local currency. Prior studies have yielded mixed results regarding the effect of foreign exchange reserves on the IHSG. Sari (2010) found that reserves have a negative but non-significant impact, whereas Purba (2013) observed a

positive and significant effect. In the present study, foreign exchange reserves are shown to have a negative and significant impact on the IHSG, suggesting that an increase in reserves may be associated with a decline in stock prices.

c. Exchange Rate and the Composite Stock Price Index (IHSG)

The exchange rate is the price of one country's currency in terms of another's and is a key indicator of international competitiveness. As defined by Krugman and Maurice (1994), the exchange rate reflects the relative value of currencies. Nopirin (1996) further clarifies that it represents the comparative price between two currencies, while Salvator (1997) offers a similar definition. Prior research has produced inconsistent findings: Kristiyawanti reported a negative and non-significant effect of the exchange rate on the IHSG, whereas Sri Novita Sari found a positive and significant influence. The regression analysis in this study indicates that the exchange rate significantly affects the IHSG, with its impact varying depending on the interaction with other economic variables.

d. Exchange Rates and Interest Rates on National Foreign Exchange Reserves

Foreign exchange transactions involve the exchange of one currency for another, and the exchange rate fluctuates based on the dynamics of supply and demand. For example, an increase in the exchange rate between the Rupiah and the US Dollar (e.g., from Rp. 8,000/USD to Rp. 9,000/USD) indicates that the Rupiah has depreciated relative to the Dollar, which has appreciated. According to Kuncoro (1996), the exchange rate should be interpreted as the amount of domestic currency required to purchase one unit of foreign currency.

Interest rates, on the other hand, are determined by the balance between the supply of savings and the demand for investment funds in the money market. They represent the cost of borrowing and are influenced by individuals' liquidity preferences—a perspective notably advanced by Keynes, who contrasts with the



classical view that sees interest rates merely as the premium for postponed consumption. The interaction between exchange rates and interest rates plays a critical role in shaping national foreign exchange reserves and, by extension, the broader economic environment.

5. Closing

5.1 Conclusion

Based on the study results, the following conclusions can be drawn:

1. The analysis indicates that inflation, foreign exchange reserves, and exchange rates simultaneously influence the movement of the Composite Stock Price Index (IHSG) for manufacturing companies on the Indonesia Stock Exchange during the 2011-2012 period.
2. In partial analysis, inflation exhibits a positive and significant effect on the IHSG; as the inflation rate increases, the IHSG tends to rise. Conversely, foreign exchange reserves have a negative and significant effect on the IHSG.
3. The exchange rate shows a negative and significant influence on the IHSG, meaning that a depreciation of the Rupiah against the US Dollar is associated with a decline in the IHSG.
4. The appreciation of the US Dollar relative to the Rupiah may lead to lower investment interest in the domestic capital market, as investors may shift their focus to foreign exchange investments to mitigate risk.

5.2 Suggestion

1. The government and relevant stakeholders should implement macroeconomic control measures and policies aimed at improving investment conditions in the capital market.
2. Future research should incorporate additional domestic and international macroeconomic factors to provide a more comprehensive analysis.
3. Beyond exchange rates, future studies should consider other indicators of economic development to capture the broader economic conditions affecting the capital market.

Bibliography

- Ahmad. (2004). Influence of Inflation, Interest Rates, and Exchange Rates on the Composite Stock Price Index on the Indonesia Stock Exchange.
- Atik, Y. (2011). Influence of Inflation, Exchange Rates, and SBI Interest Rates on Stock Prices Listed on the Indonesia Stock Exchange (IDX).
- Bayu, W. (2003). Effects of Dynamic Disturbances in Aggregate Demand and Supply on Inflation Fluctuations in Indonesia. *Journal of Economics and Business (Dian Ekonomi)*, 2(1).
- Bernanke, B. S., & Kuttner, K. N. (2004). What Explains the Stock Market's Reaction to Federal Reserve Policy? *Journal of Finance*.
- Budilaksono. (2005). Influence of Inflation, Interest Rates, and Exchange Rates on the Composite Stock Price Index on the Indonesia Stock Exchange.
- Jatiningsih, O., & Musdholifah. (2007). The Influence of Macroeconomic Variables on the Composite Stock Price Index at the IDX. *Journal of Applied Management*, 5(1), April.
- Kristiyawati. (2011). Analysis of the Influence of SBI Interest Rates, Exchange Rates, Money Supply, and the DOW JONES Index on the Composite Stock Price Index (IHSG) on the Indonesia Stock Exchange (IDX).
- Muzammil, A. (2011). Analysis of the Influence of the Southeast Asian Stock Index on the Composite Stock Price Index (IHSG) on the Indonesia Stock Exchange.
- Niken, R., & Muhaimin. (2011). The Influence of the Dow Jones Industrial Average (DJIA) Index, Inflation, Rupiah Exchange Rate, and Foreign Exchange Reserves on the Composite Stock Price Index (IHSG) (2008–2010).
- Novianto, A. (2011). Analysis of the Influence of the US Dollar/Rupiah Exchange Rate (US\$/Rp), SBI Interest Rate, Inflation, and



Money Supply (M2) on the Composite Stock Price Index (IHSG) on the Indonesia Stock Exchange (IDX) (1999.1–2010.6).

Susilo, S., & Triandaru, S. (2000). *Banks and Other Financial Institutions* (1st ed.). Jakarta: Salemba Empat.

Octaviana, A. (2007). Analysis of the Influence of the Rupiah/US\$ Exchange Rate and SBI Interest Rate on the Composite Stock Price Index at the Jakarta Stock Exchange.

Online Sources:

Gunadarma University Repository. (2013). *Journal article*. Retrieved November 2, 2013, from <http://repository.gunadarma.ac.id/bitstream/123456789/5255/1/jurnal.pdf>

Pinem, J. R. (2009). Analysis of the Influence of Exports, Imports, and the Rupiah Exchange Rate on Indonesia's Foreign Exchange Reserves.

Diponegoro University Repository. (2013). *Thesis journal*. Retrieved November 2, 2013, from http://eprints.undip.ac.id/27812/1/JURNAL_SKRIPSI.pdf

Purba, B. (2013). Analysis of the Influence of GDP Growth, SBI Interest Rates, CPI, Foreign Exchange Reserves, and Rupiah Exchange Rate on the Growth of Money Supply in Indonesia.

Riau University Repository. (2013). *Journal article*. Retrieved November 2, 2013, from <http://repository.unri.ac.id/bitstream/123456789/651/1/JURNAL%20ARYUNI%20INTAN%200802113111.pdf>

Raharjo, S. (2009). Analysis of the Influence of Macro Variables and Financial Ratios on Stock Prices in Manufacturing Companies at the Indonesia Stock Exchange.

Jejong. (2013). *Pengertian Kurs dan Macam-Macam Kurs*. Retrieved November 21, 2013, from <http://jejong.wordpress.com/2013/06/29/pengertian-kurs-dan-macam-macam-kurs/>

Valadkhani, A., Chancharat, S., & Harvie, C. (2006). The Interplay Between the Thai and Several Other International Stock Markets. *Working Paper 06-18*, Department of Economics, University of Wollongong.

Taufieq Hiedaeyat. (2013). *Personal blog*. Retrieved November 21, 2013, from <http://taufieqhiedaeyat.blogspot.com/>

Books:

Dumairy. (1999). *Ekonomi Indonesia* (4th ed.). Jakarta: Erlangga.

Husnan, S. (2001). *Basic Theory of Portfolio and Securities Analysis* (3rd ed.). Yogyakarta: AMP YKPN.

Kasmir. (2008). *Banks and Other Financial Institutions* (Revised ed.). Jakarta: Raja Grafindo Persada.

Lipsey, R. G. (1990). *Macroeconomics*. New York: Harper & Row.

Mankiw, N. G. (2006). *Macroeconomic Theory* (4th ed.). Jakarta: Salemba Empat.

Samuelson, P. A., & Nordhaus, W. D. (1999). *Macroeconomics* (14th ed.). Jakarta: McGraw-Hill.