

ERROR CORRECTION MODEL ANALYSIS OF IHSG IN A MACROECONOMIC PERSPECTIVE

By

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Abstrak

An increase in the IHSG indicates that the capital market is bullish (increasing), on the other hand, if it decreases, it indicates that the capital market is bearish (decreasing). The incident was influenced by several macroeconomic factors. Among the macroeconomic factors that influence on the IHSG movement are inflation, interest rates (BI rate), Gross Domestic Product and Exchange Rates. IHSG represents all stock price movements traded on the Indonesia Stock Exchange. This study aims to determine the effect of inflation, interest rates (BI rate), Gross Domestic Product and Exchange Rates on the Composite Stock Price Index in the long and short term. Simultaneously, inflation, interest rates (BI rate), Gross Domestic Product and Exchange Rates have a significant impact in the long and short term.

Keywords : IHSG, BI Rate, GDP, Exchange Rate, ECM

INTRODUCTION

The capital market is seen as one of the effective means to accelerate the development of a country. This is possible because the capital market is a tool to raise long-term funds from the public. If the movement of public funds through financial institutions and the capital market can run well, then development funds sourced from abroad can be reduced (Anoraga, 2001). One indicator of the capital market is the Stock Price Index (IHSG), the average index of all share prices listed on the Indonesia Stock Exchange. The high IHSG shows that the capital market is experiencing an upward or rising trend, which is called bullish, on the contrary, the decline in the IHSG shows that the capital market is experiencing a weakening which is called bearish. Therefore, the pattern of behaviour of stock price activities in the capital market, an investor must understand. The Stock Price Index is the main place for consideration for investing, things that make the emergence of stock prices can affect various kinds of economic factors (Widoatmodjo, 2012).

High inflation rates are usually associated with overheated economic conditions. This means that economic conditions experience a demand for products that exceed the supply capacity of their products, so prices tend to increase. Inflation that is too high will cause a decrease in the purchasing power of money and can reduce the level of real income that investors get from their investments. So high inflation causes a decrease in company profits so that the equity effect becomes less competitive (Eduardus, 2001).

(Taindeliliin, 2010), a relative increase in inflation is a negative signal for investors in the capital market. Inflation is the main factor influencing the stock market (Patel, 2012). In Keynes' theory of pain relief, when inflation increases, the IHSG decreases. (Krisina & Wirawati, 2013) and (Ekadjaja & Diainasari, 2017) in their research stated that inflation had a significant positive effect on the IHSG. Then, (Rainto, 2019) and (iNofiatin, 2013) in their research stated that inflation had a negative and significant effect on the JCI. In contrast to what was done by

(Wijaya, 2013) which stated that inflation had no effect on the IHSG.

The classical theory shows that interest is the price of loanable funds (investment funds or loan loans). Such a design interest is the price that occurs in the market for investment. The public's decision to take the form of a component of their wealth for competitiveness determines the high level of income (iNopiriin, 1996), (Sartika, 2017) and (iNofiatin, 2013) in their research stated that the Interest Rate (BI rate) has a significant positive effect on the IHSG. Then, according to (Mahdi & Kaluge, 2009) and (Hismeindi et al., 2013) stated that the Interest Rate (BI rate) had a significant negative effect on the IHSG. In contrast to what was done by (Wijaya, 2013) which stated that inflation did not effect on the IHSG.

Gross Domestic Product (GDP) is a factor that influences changes in stock prices. Estimated GDP will determine economic development. GDP comes from the number of consumer goods that are not capital goods. The increasing number of consumer goods causing the economy to grow, and increasing the scale of the company's sales turnover because society is consumptive. With the increase in sales turnover, the company's profits also increase. The increase in profits caused the company's stock price to also increase, which had an impact on the IHSG movement.

(Hismeindi et al., 2013) and (Kusuma & Badjra, 2016) in their research stated that Gross Domestic Product (GDP) had a significant positive effect on the IHSG. Then, according to (iNofiatin, 2013) stated that the Gross Domestic Product (GDP) had a significant negative effect on the IHSG. (Suinariyah, 2011) lowering the exchange rate can increase the cost of importing raw materials and increase the fabric of the interest rate although it can increase the value of exports. If this increase in costs cannot be absorbed by the selling price to consumers, the company's profitability will decrease. This lower profitability will have a significant competitive impact on dividend earnings that

investors must receive, in turn investing in shares in the capital market becomes less attractive. This will encourage investors to sell their shares. If many investors do this, of course they will encourage investors to develop the Gabuingain Stock Price Index. (Kumalasari, 2016). (Mahdi & Kaluge, 2009), (Kusuma & Badjra, 2016) and (Ekadjaja & Diainasari, 2017) in their research stated that the exchange rate has a positive and significant effect on the IHSG. Then, in paindaingain (Wulaindari et al., 2019) and (Sartika, 2017) it is stated that the exchange rate has a negative and significant effect on the IHSG.

RESEARCH METHOD

The method used in this research is ECM (Error Correction Model). The ECM method is used to determine the effect of the independent variable on the dependent variable in the short term and time series data for the cointegrated variables are adjusted quickly to return to long-term equilibrium in their use.

Long Term Estimation Model

$$IHSG_t = \beta_0 + \beta_1 INF_t + \beta_2 BIRate_t + \beta_3 GDP_t + \beta_4 EXR_t + \varepsilon_t$$

Short Term Estimation Model

$$D(IHSG)_t = \beta_0 + \beta_1 D(INF)_t + \beta_2 D(BIRate)_t + \beta_3 D(GDP)_t + \beta_4 D(EXR)_t + ECT_{(-1)}$$

RESULTS AND ANALYSIS (10 PT)

If the absolute value of the ADF statistic is greater than the critical value, then the observed data is stationary, and if the absolute value of the ADF statistic is smaller than the critical value, then the data is not stationary.

Cointegration Test

The cointegration test is the next stage after the unit root test. In general, time series data can be said that if it is not stationary at the level of the dependent variable (Y) and the independent variable (X), but at the same differential level (d) is stationary, then it is affected by cointegration in these two variables.

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	Critical Value (5%)	Prob.**
None *	0.6429	80.941	69.818	0.005
At most 1 *	0.4971	49.015	47.856	0.038
At most 2	0.4385	27.706	29.797	0.085
At most 3	0.2672	9.8114	15.494	0.295
At most 4	0.0055	0.1732	3.8414	0.677

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level

The cointegration results above can be read by comparing the Trace Statistics with the critical value at the 5% confidence level. The Trace Statistic value is greater than the critical value at the 5% confidence level, namely (80,941 > 69,818 and 49,015 > 47.856) then there is cointegration in the data and the ECM model can be continued to see the full range.

Error Correction Model (ECM) Result

If the data is not stationary at the level level, but stationary at the level of differentiation and the cointegrated variable, it means that there is a large significant relationship between the variables.

Results of Error Correction Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4690.661	714.0926	6.568701	0.0000
INF	-0.730772	54.91950	-0.013306	0.9895
BI_RATE	-158.8037	76.32119	-2.080729	0.0464
NT	-0.141121	0.056084	-2.516251	0.0176
PDB	0.011262	0.001435	7.847484	0.0000

Long Term Estimation Result:

$$D(IHSG)t = 75.53251 + 8.866622 D(INF)t - 41.15933 D(BIrate)t + 0.006870 D(PDB)t - 0.393144 D(NT)t - 0.393144 ECT(-1) + \epsilon t$$

Variable	t-Stat	t-tabel	Result
INF	-0.013306	-204.523	Not Significant
BIrate	-2.080.729	-204.523	Significant
PDB	7.847.484	204.523	Significant
NT	-2.516.251	-204.523	Significant

In the long term, it shows that the variables of Interest Rate (BI rate), Gross Domestic Product and Exchange Rate partially have a significant effect on the Composite Stock Price Index. However, the Inflation variable partially has no significant effect on the IHSG.

CONCLUSION

1. Inflation has no negative and insignificant effect on the IHSG in the long term and Inflation has no and no significant effect on the IHSG in the short term.

2. The BI rate has a negative and significant effect on the IHSG in the long term and the BI rate has no negative and significant effect on the IHSG in the short term.
3. GDP has a positive and significant effect on the JCI in the long term and GDP has a positive and significant effect on the JCI in the short term.
4. The exchange rate has a negative and significant effect on the IHSG in the long term and the Exchange Rate has a negative and significant effect on the IHSG in the short term.

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