

THE IMPACT OF MONEY SUPPLY AND THE INFLATION RATE ON INDONESIA COMPOSITE INDEX: CASE STUDY IN INDONESIA STOCK EXCHANGE 2008-2017

Sumaryoto¹, Anna Nurfarkhana², Tri Anita³

Universitas Indraprasta PGRI, Jakarta¹

E-mail: sumaryoto@unindra.ac.id

Abstract: This research is a descriptive and explanative research on the impact of money supply and the inflation rate on Indonesia Composite Index or IHSG. This research tries to understand the factors affecting the composite stock price index of IHSG by studying Indonesia stock exchange in the period of 2008-2017. The result of this study shows that: 1) The Amount of Money supply has a significant effect on the IHSG. This is evidenced by sig $0.00 < 0.05$ and Fcount of 35.467 with the determinant coefficient (R²) of 0.947. This means that 94.7% of the impact is determined to be the contribution of the independent variable (Amount of Money supply and Inflation Rate) together on the dependent variable (IHSG). While the rest (5.3%) is the influence of outside variables not examined in this research. 2) The Amount of Money supply has a significant effect on the IHSG, in accordance with the hypothesis. This is evidenced by sig $0.00 < 0.05$ and tcount of 9.213 for the regression coefficient of 0.131 with a significance level of 5% and a significance value of 0.00 (smaller than the significance level of 0.05). 3) The inflation rate has no significant effect on the IHSG. This is evidenced by sig $0.277 > 0.05$ and tcount of 1.195 for the regression coefficient of 0.336 with a significance level of 5% and a significance value of 0.227 (greater than the significance level of 0.05).

Keywords: *Money supply, Inflation Rate, Indonesia Composite Index, Indonesia Stock Exchange.*

1. Introduction

One of the indicators in analyzing stock exchange in Indonesia is Indonesia Composite Index (Indeks Harga Saham Gabungan or IHSG). The Composite Stock Price Index (IHSG) was first introduced on April 1, 1983 as an indicator of price movement of stocks listed on the Indonesia stock exchange either common stock or preferred stock (Jarniati, Fitrawaty, & Nugrahadi, 2018). This is one of the stock market indexes used by the Indonesia Stock Exchange (Bursa Efek Indonesia or BEI). The market indicators can fluctuate along with changes in existing macro indicators. Daily fluctuations of the stock markets might stem from economic and political affairs. However, stock markets are not independent of domestic and global macroeconomic conditions (Demir, 2019). Along with the changes in the market indicators, macroeconomic indicators are also becoming more volatile. The stock index

fluctuates in accordance with internal and external conditions of a country. External influences are caused more by global factors due to globalization especially in the field of trade and international economic cooperation (Aryasta & Sri Artini, 2019). The relationship among macroeconomic variables with capital market is being developed by the researchers for the last decades (Wahyudi, Hersugondo, Laksana, & Rudy, 2017).

The stock exchange as capital market is one of the driving forces of the economy in a country. It is a mean of forming capital and accumulation of long-term funds aimed at increasing public participation in mobilizing funds to support national development financing. In addition, the stock exchange is also a representation to assess the condition of companies in a country because almost all industries in a country are represented by the capital market. Stock markets that have increased (bullish) or decreased (bearish) can be seen from the ups and downs of the prices of listed stock prices which are reflected through an index movement or better known as the Composite Stock Price Index (CSPI). The economic growth of a country cannot be separated from the capital market itself which is measured in the Composite Stock Price Index (CSPI) (Rosalyn, 2018). This type of stock price index can become a benchmark whether a stock portfolio that includes into the stock price index calculation shows increasing values (Robiyanto, 2018). Indonesia Composite Index (IHSG) is the value used to measure the combined performance of all shares from companies and issuers listed on the Indonesia Stock Exchange (BEI).

One of the factors influencing the Composite Stock Price Index is inflation (Parlina, 2017). Inflation is a tendency for prices to rise continuously which can also be interpreted as a decrease in the overall value of money supply. The fundamental concept of economics suggests that, inflation is dependent on the quantity of excess money circulating in an economy (Esumanba, Danaa, & Konadu, 2019). The higher the price increases, the more the value of money decreases. A high inflation rate can disrupt the economy in general by reducing purchasing power, since a decline in the value of a currency can also increase the risk of a decline in people's real income. In investment, high inflation rate causes investors to be more careful in choosing and conducting transactions. Investors tend to use the wait-and-see approach in investing, preferring a more conducive economic conditions to avoid the risks that may be caused by high inflation rate. In addition to this, there are other factors that can influence investor policy in investing. Many factors that affect the rate of inflation including the money supply and interest rates. A country's economic activity is never separated from money activities (Darman, 2016). If the money supply increases, bank interest rates will fall. Thus, investors will tend to invest their money instead of saving in a bank and vice versa. An understanding of the amount of money supply can be interpreted both in a narrow or broader sense. In a narrow sense, the money supply refers to the cash flowing in society or currency in circulation, while in a broader sense it refers to the quasi money which is assets which can easily be converted to cash. A review of previous researches shows that there is a factor in the amount of money supply that significantly influences the rate of change in stock prices. This occurs due to inflationary pressures that have an impact on the ups and downs of company profits (Divianto, 2013).

The amount of money supply in the country could affect in worldwide inflation. The rate of inflation can have both positive or negative effect depending on the degree of inflation itself. Excessive inflation can hurt the economy as a whole, which in turn will drive many

companies to go bankrupt. When inflation is high and the amount of money circulating in the community is large, Bank Indonesia as the central bank of the Republic of Indonesia will automatically respond by pressing interest rates

2. Research Method

Hypothesis

There are three main hypotheses in this research:

- H₁:** The amount of money supply has a significant effect on the CSPI of Indonesia Composite Index (IHSG).
H₂: The inflation rate has a significant effect on the CSPI of Indonesia Composite Index (IHSG).
H₃: The amount of money supply and the inflation rate together have a significant effect on the CSPI of Indonesia Composite Index (IHSG).

population and sample

Population and Sample The research was conducted at the Indonesia Stock Exchange with data collection through ICMD (Indonesian Capital Market Directory) 2013-2017, The population in this study are companies engaged in the property and real estate sector which are listed on the Indonesia Stock Exchange from 2013-2017 based on those contained in the ICMD for the period 2013-2017 and internet sites www.idx.co.id.

Sampling is done by using a non-probability sample design with judgment sampling method where the sample selection is based on an assessment of several characteristics of the population members adjusted to the purpose of the study. (Kuncoro, 2003:119).

The sampling criteria used by researchers are:

1. Property and Real Estate companies listed continuously on the Indonesia Stock Exchange during the period 2013-2017.
2. Property and Real Estate companies that have complete financial reports for the period 2013-2017.

Based on these criteria, the number of samples in this study can be explained in Table 3.1

Tabel 1
Number of Samples Based on Sampling Criteria

No.	Criteria	Total
1.	Companies engaged in the property sector and Real Estate listed on the Indonesia Stock Exchange	45
2.	Property and real estate companies that are not listed continuously on the Indonesia Stock Exchange during the 2013-2017 period.	12
3.	Property and Real Estate companies that do not have complete financial reports for the period of the Year	14
	Number of Samples	23

Source: Indonesian Capital Market Directory 2013-2017

Tabel 2
Research Samples

No	Company Code	Company name
1.	ASRI	PT. Alam Sutera Realty Tbk
2.	BAPA	PT. Bekasi Asri Pemula Tbk.
3.	BSDE	PT. Bumi Serpong Damai Tbk.
4.	CTRA	PT. Ciputra Development Tbk
5.	CTRP	PT. Ciputra Property Tbk.
6.	COWL	PT. Cowell Development Tbk
7.	DART	PT. Duta Anggada Realty Tbk.
8.	DUTI	PT. Duta Pertiwi Tbk.
9.	DILD	PT. Intiland Development Tbk.
10.	ELTY	PT. Bakrieland Development Tbk.
11.	GAMA	PT. Gading Develovment Tbk.
12.	JRPT	PT. Jaya Real Property Tbk.
13.	LAMI	PT. Lamicitra Nusantara Tbk.
14.	LPCK	PT. Lippo Cikarang Tbk.
15.	LPKR	PT. Lippo Karawaci Tbk.
16.	MAMI	PT. Mas Murni Indonesia Tbk.
17.	MDLN	PT. Modernland Realty Tbk.
18.	PJAA	PT. Pembangunan Jaya Ancol Tbk.
19.	GPRA	PT. Perdana Gapura Prima Tbk.
20.	PNSE	PT. Pudjiadi & Son Estate Tbk.
21.	PLIN	PT. Plaza Indonesia Realty Tbk.
22.	RBMS	PT. Ristia Bintang Mahkota Sejati Tbk.
23.	SMRA	PT. Summarecon Agung Tbk.

Source: Indonesian Capital Market Directory for the period 2013-2017

3. Results and Discussion

3.1. Empirical Model

In analyzing the data, this research lists various formulas to analyze and process the data using SPSS version 20. The formulas used are, among others:

A. Normality Test

Normality Test aims to test whether or not the dependent variable and the independent variable in the regression model have normal distribution. The best regression model is normal or near normal data distribution. This test is done by looking at the spread of data by using points on a diagonal axis or graph. If the data spreads around and follows the direction of the diagonal line, the regression model meets the normality assumption. If the data spreads far from or does not follow the direction of the diagonal line, the regression model does not meet the assumption of normality (Ghozali, 2005, p. 159). This normality test can be done through graph analysis and statistical analysis.

1. Graph Analysis

One of the easiest ways to see residual normality is to look at a histogram that compares observational data with close to normal distributions. However, it can be confusing to just looking at the histogram, especially for small sample sizes. Another method that can be used is to look at the normal probability plot comparing the cumulative distribution to that of the normal distribution. The basis for decision making in normal probability plot analysis is as follows:

- 1) If the data spreads around and follows the direction of the diagonal line, the data shows a normal distribution pattern. Thus, the regression model meets the normality assumption.
- 2) If the data spreads far from or does not follow the direction of the diagonal line, the data does not show a normal distribution pattern. Thus, the regression model does not meet the normality assumption.

2. Partial Regression Plot

It can be seen in the picture that the data distribution forms in the upper right or the lower right direction. If there is a line drawn, this data distribution will show a positive or negative slope according to the regression coefficient.

B. Multiple Linear Regression Analysis The analytical method used is multiple linear regression model. In this case, data processing uses SPSS version 20 in which the equation can be written as follows:

$$Y = a + b_1X_1 + b_2X_2$$

Description:

Y = Composite index

a = constant

X1 = amount of money supply

X2 = inflation rate

b1.. bn = regression coefficient

e = error term

The regression coefficient value is very decisive here as a basis for analysis, considering that this study is akin to a fundamental method one. This means that if the coefficient is positive (+), it can be said that there is a direct effect between the independent variable and the dependent variable. Each increases of the value of the independent variable will result in an increase in the dependent variable. Vice versa, if the coefficient is negative (-), this shows that there is a negative effect that is the increase in the value of the independent variable will result in a decrease in the value of the dependent variable.

C. Correlation Coefficient Analysis

To test the hypothesis presented before, parametric statistical test, specifically the Pearson correlation coefficient (product moment), was used. The Pearson correlation coefficient is

an index used to measure closeness and prove the hypothesis of the relationship between the independent variable (amount of money supply and the inflation rate) with the dependent variable (the composite index). The Pearson correlation formula used in this case is as follows:

$$\frac{n \sum XY - \sum X \sum Y}{\sqrt{X^2 - (\sum X)^2} \sqrt{Y^2 - (\sum Y)^2}}$$

Description:

- r = Pearson Correlation Coefficient
n = Amount of sample
X = Value of independent variable
Y = Value of dependent variable

The calculation of the correlation coefficient was done using SPSS version 20. To give an interpretation of the correlation coefficient values, table 1 is used to present the criteria as follows:

Table 3. Correlation Coefficient Criteria

Interval		Description
Positive	Negative	
r = 0.00	r = 0.00	No correlation
0.00 ≤ r < 0.20	- 0.20 ≤ r < 0.00	Very weak correlation
0.20 ≤ r < 0.40	- 0.40 ≤ r < - 0.20	Weak correlation
0.40 ≤ r < 0.60	- 0.60 ≤ r < - 0.40	Significant correlation
0.60 ≤ r < 0.80	- 0.80 ≤ r < - 0.60	Strong correlation
0.80 ≤ r < 1.00	- 1.00 ≤ r < - 0.800	Very strong correlation
r = 1.00	r = -1.00	Perfect correlation

(Source: Silaen & Widiyono, 2013, p. 223)

D. The Determinant Coefficient

The determinant coefficient is the square of the value of the correlation coefficient. This means that the change in the dependent variable caused by the independent variable is equal to the square of the correlation coefficient (r²). The formula for the determinant coefficient is as follows:

$$KD = r^2 \times 100\%$$

Description:

KD = The determinant coefficient

r² = correlation coefficient squared

The calculation for this determinant coefficient was done using SPSS Version 20.

1. Hypothesis Test Analysis

The accuracy of the sample regression function in estimating the actual value can be measured from its goodness of fit. Statistically, at least this can be measured from the statistical value of the t variable, the statistical value of the F variable, and the value of the determinant coefficient (r²). The calculations will become statistically significant if the test statistical value is in a critical area (the area of the rejected Ho). On the other hand, it is called insignificant if the test of its statistical value is in the area of the accepted Ho.

a. Partial test of the t value

This partial test was done to see the significance of each of the dependent and the independent variables, namely the Rupiah Exchange Rates, the inflation rate, and the amount of money supply against the composite index (ICI). Therefore, this is used to test the hypothesis, Ha1, Ha2, Ha3, Ha4, and Ha5. According to Silaen and Widiyono the testing steps are as follows (Silaen & Widiyono, 2013, p. 214):

- 1) Formulating a hypothesis that includes H_e and H_a. If H_o is accepted, it means that there is no effect of the Independent variable on the dependent variable partially. If H_a is accepted, it means that there is an effect of the independent variable partially on the dependent variable.
- 2) Determining the level of significance, which is equal to 0.05 (α - 0,05).
- 3) Calculating the degree of freedom (df) with the formula of df = n - 2.
- 4) In the Student t table, look for a t_{table} value or t_{count} value (t α).
- 5) Comparing the value of t_{count} with the t_{table}, If the value of t_{count} was bigger than t_{table} then H_a is accepted. The value of t_{count} (t_{hitung} or T_h) can be determined by using the formula:

$$T_h = \frac{r \sqrt{n-2}}{1-rs^2}$$

Description

n = the amount of data

r = correlation coefficient

- 6) If t_{table} > t_{count} and t_{count} < t_{table} , independent variable individually has no impact to the dependent variable.
- 7) If t_{count} > t_{table} and -t_{count} < -t_{table}, independent variable individually has an impact to the dependent variable.
- 8) Based on the probability, H_a will be accepted if the probability value is less than 0.05 (α).
- 9) Determining the independent variable which has the most dominant impact on the

dependent variable. This relationship can be seen from the regression coefficient.

b. Test of F value

Test of F variable or the Analysis of Variance (Anova) is used to test the significance of influence of the Rupiah Exchange Rates, inflation rate, and the amount of money supply against the composite index simultaneously. According to Silaen and Widiyono, the testing step is as follows (Silaen & Widiyono, 2013, p. 214):

- 1) Formulating the hypothesis that includes H_0 and H_a . If H_0 is accepted, it means that there is no effect of the independent variable on the dependent variable simultaneously. If H_a is accepted, it means that there is an influence of the independent variable on the dependent variable simultaneously.
- 2) Determining the level of significance which is equal to 0.05 ($\alpha = 0,05$)
- 3) Calculating the degree of freedom (df) with the formula of numerator $df = k$; and denominator $df = n - k - 1$.
- 4) Looking for the value of F_{table} in the F Distribution table.
- 5) Comparing Direct values with F_{table} values. If F_{count} is greater than F_{table} then H_a is accepted. The F_{count} value can be searched by the formula of:

$$F_{count} = \frac{R^2 / (k-1)}{(1-R) / (N-k)}$$

Description:

R^2 = Determinant coefficient
 k = Amount of regression coefficient
 N = Amount of observation

- 6) If $F_{count} < F_{table}$, the independent variables together have no effect on the dependent variable.
- 7) If $F_{count} > F_{table}$, independent variables together affect the dependent variable.
- 8) Based on Probability.
- 9) By using the probability value, H_a will be accepted if the probability is less than 0.05.
- 10) Determining the value of the determinant coefficient, this coefficient shows how much the independent variable in the model used is able to explain the dependent variable.

A. The Growth of the amount of money supply in Indonesia

Money supply is the obligation of the monetary system (Central Bank, Commercial Bank, and Rural Credit Bank or Bank Perkreditan Rakyat / BPR) to the domestic private sector (not including the central government and non-residents). The primary components of the money supply consists of cash held by the public (excluding those held by commercial banks and BPR), demand deposits, quasi money owned by the domestic private sector, and securities other than shares issued by the monetary system owned by the domestic private sector with the remaining time period up to one year (Divisi Statistik Moneter dan Fiskal, 2020). Thus, money supply can be defined in a narrow sense ($M1$) and in a broad sense

(M2). M1 includes cash held by the public and demand deposits (current accounts denominated in Rupiah), while M2 covers M1, quasi money (includes savings, time deposits in rupiah and foreign exchange, and current accounts in foreign currencies), and securities issued by the monetary system owned by the domestic private sector with a remaining term of up to one year.

The factors affecting the Money Supply are Net Foreign Assets (NFA) and Net Domestic Assets (NDA). Net Domestic Assets consist of Net Claims on Central Government (NCG) and Claims on other sectors (the private sector, regional governments, financial institutions and non-financial companies) mainly in the form of loans. Circulating money is prepared by referring to the Monetary and Financial Statistics Manual (MFSM) from 2000 and Compilation Guide from 2008. The amount of money supply in Indonesia can be seen in the table 2 as follows.

Table 4. Amount of money supply in 2008 – 2017

Year	M1	M2
2008	271,140	1,202,762
2009	374,013	1,382,439
2010	450,055	1,649,662
2011	456,787	1,895,839
2012	515,824	2,141,384
2013	605,411	2,471,206
2014	722,991	2,877,220
2015	841,722	3,305,645
2016	887,107	3,727,887
2017	942,145	4,170,371

Source: The data from Bank Indonesia was examined by the researcher

B. The growth of inflation rate in Indonesia

In the long run, since independence, the Government of Indonesia's efforts to maintain currency stability have headed for the better. The inflation in Indonesia was very high in the days of President Sukarno, because fiscal and monetary policies were not prudent at all (if money was needed, just print it out). During the Suharto era, the government tried to reduce inflation but could not achieve rate below 10% a year on average. This is partly because Bank of Indonesia still had a dual mission, among others was its mission as an agent of development which could disburse unlimited liquidity credit. Only in the reformation era, starting at the time of President Habibie, did the function of Bank of Indonesia prioritize safeguarding the value of the Rupiah. But because of history and because of people's inflationary expectations (which goes backwards in reflecting history) the "core inflation" is still greater than 5% a year (Utami Daryono, 2013). In the 1990s, the Suharto Government had actually been able to maintain the inflation rate by an average of under 10%. It's just that when entering the monetary crisis of Indonesia and Asia in 1997, the inflation rate increased again to 11.10% and then jumped to 77.63% in 1998 at which time the rupiah exchange rate also dropped from Rp2.909 per US dollars in 1997 to

Rp10,014 per US dollars in 1998. After that the Habibie government adopted a very tight monetary policy and produced the lowest recorded inflation rate that was ever achieved, which was 2.01% in 1999. Furthermore, in 2000 to 2006, inflation continued to occur with relatively high values with an average of 10%. Inflation in 2005 with a value of 17.11% is the highest inflation rate recorded after the Indonesian monetary crisis (1997/1998). The pressure on fuel price adjustments is expected to be the main factor in the high inflationary rate in 2008. High oil prices on the international market caused the Government to try to eliminate fuel subsidies. This greatly affected Indonesia's macroeconomic conditions, considering that fuel consumption reached 47.4% of Indonesia's total energy consumption in 2000. Inflation moves at a tight number of 6.60% in 2008 and 6.59% in 2009. If inflation that occurred in 2007 could be ignored on the grounds that fuel price as the main factor affecting inflation in 2008 was beyond the Government's control, then the inflation rate in the year of 2001-2009 could be said to be quite controlled.

Indonesian government (post-reformation era) seems to have tried hard to maintain the inflation rate, as seen in table 3 below. However, various pressures from within and outside in post-reformation era of 1997 are still highly affecting the movement of the Indonesian economy. Inflation occurring in Indonesia is still quite high when compared to the inflation rates of Malaysia and Thailand which are around 2%, even more so if compared to Singapore which is under 1%. If the real domestic sectors are not raised, efforts in the monetary sector to maintain macroeconomic stability in the long run will only be in vain.

Table 5. Inflation rates in 2008 - 2017

Year	Inflation rate
2008	17.11%
2009	6,60%
2010	6 59%
2011	11,6%
2012	2,78%
2013	6,69%
2014	3,79%
2015	4,30%
2016	8,38%
2017	8,36%

Source: The data from Bank Indonesia was examined by the researcher

C. The Growth of Indonesia Composite Index (IHSG)

Composite Stock Price Index is one of the indicators to help understand the movement of stock prices. Indonesia Composite Index (IHSG) is an illustration for investors to make portfolio investments in the stock market. By looking at the IHSG, investors can predict the possibilities that will occur in the market such as stock prices and the benefits to be gained. However, these possibilities may not be in accordance with the expectations that investors want to get after they make the portfolio investment because the level of risk to be received is almost the same as the level of profit to be achieved. In this sense, the

existence of IHSG is very helpful for investors to make portfolio investments in the stock market. The growth of Indonesia Composite Index (IHSG) can be seen in table 4.

Table 6. Indonesia Composite Index (IHSG) of 2008 – 2017

Year	Indonesian Composite Index (IHSG)
2008	1,162.64
2009	1,805.52
2010	2,745.83
2011	1,355.41
2012	2,534.36
2013	3,705.51
2014	3,821.99
2015	4,316.69
2016	4,274.18
2017	5,226.95

Source: The data from Bank Indonesia was examined by the researcher

3.2.Result and Analysis

This section will describe the data of each variable that has been processed using Statistical Product and Solutions (SPSS) version 20. The processed SPSS data in the form of statistical descriptive will display the characteristics of the sample used in the study, among others include: number of samples (N), sample mean (mean), and minimum, maximum, and standard deviation (e) for each variable which are presented in table 7.

Table 7. Descriptive Statistics of Money supply, inflation rate, and IHSG

	N	Minimum	Maximum	Mean	Std.
Money supply	10	14739.02	51125.16	30891.61	12426.00443
Inflation rate	10	4.3	17.11	5.595	5.0779332
IHSG	10	1162.64	5226.95	3094.908	1381.97217
Valid N	10				

Table 7 shows that the amount of data used in this study was 10 sample data taken from the BEI Annual Publication Report for the period of 2008 - 2017 and Bank of Indonesia for the period of 2008 - 2017. The amount of money supply during the study period had the lowest (minimum) value of 14739.02. The highest amount of money supply (maximum) was 51125.16. The average amount of money supply is 30891.6100 which means that during the study period there was an average amount of money supply of 30891.6100. The standard deviation of 12426.00443 indicates that the variable size of the amount of money supply is 12426.00443.

The highest value of inflation was 17.11%. This shows that the occurrence of inflation or an increase in overall product prices is 17.11%. Meanwhile, the lowest value is 4.30%. An average value of 5.59% means that during the study period, an average inflation of 5.59% occurred. The standard deviation of 5.0779332% indicates that the size of the spread of inflation rate is 5.0779332%. Indonesia Composite Index (IHSG) during the research period has the lowest value (minimum) of 1162.64. The highest value of IHSG (maximum) is 5226.95. The average amount of IHSG is 3094.9080 meaning that during the study period there was an average amount IHSG value at 3094.9080. The standard deviation of 1381.97217 shows that the variable size of the IHSG value is 1381.97217.\

A. Multiple Linear Regression Analysis

Multiple Linear Regression Analysis is used to predict whether the X variable partially influences the Y variable. The equation can be seen from the table of results of the test of coefficients based on the output of SPSS version 20 on the four X variables (Rupiah exchange rate, inflation rate, amount of money supply) to Y variable (IHSG) shown in table 6.

Table 8. Coefficients*

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2792.056	1122.474	-.366	2.487	0.047
Money supply	.131	0.014	.123	9.213	.032
Inflation rate	0.336		1.176	1.195	0.000

a. Dependent Variable: IHSG

By looking at table 6 above, we can formulate the multiple linear regression equation as follows: $IHSG = 2792.056 - 0,331 X_1 + 0,336 X_2$

Description:

X_1 = Amount of money supply

X_2 = Inflation rate

From this multiple linear regression equation:

- 1) Having a constant of 2792,056 shows that if the independent variables (Money Supply, Inflation Rate) are assumed to be equal to 0, then the dependent variable (IHSG) will be at 2792,056%.
- 2) The Money supply variable has a positive direction of 0.131. This shows that if the Money supply increases by 1%, the IHSG variable increases by 0.131% or vice versa, assuming that the Inflation Rate variable is constant.

- 3) The Inflation Rate variable has a positive direction of 0.336. This shows that if the inflation variable increases by 1%, the IHSG variable increases by 0.336% or vice versa, assuming that the money supply variable is constant.

B. Partial Correlation Coefficients Analysis

Partial Correlation Coefficient Analysis is used to find out the relationship between two variables in which other variable are considered to be controlled or treated as a control variable. The correlation value (r) ranges from 1 to -1. If the value is getting closer to 1 or -1, it means that the relationship between two variables is getting stronger. On the other hand, if a value is closer to 0, it means that the relationship between the two variables is getting weaker. A positive value indicates a direct relationship (variable X increases, variable Y increases) and negative value indicates an inverse relationship (variable X increases, variable Y decreases). Table 7 below shows the result of processing SPSS version 20 regarding Partial Correlation between the money supply variable with IHSG variable and the Inflation rate variable with IHSG variable.

Table 9. The Result of Partial Correlation Coefficient Test

		Money Supply	Inflation rate	IHSG
Money supply	Sig. (1-tailed)		0.403	.000
	N	10	10	10
	Pearson Correlation	0.937	-0.075	.1
Inflation rate	Sig. (1 tailed)	0.403		.419
	N	10	10	10
	Pearson	.937	-.075	.1
IHSG	Sig. (1-tailed)	0.000	0.419	
	N	10	10	10

*. Correlation is significant at the 0.05 level (1-tailed).

**. Correlation is significant at the 0.01 level (1-tailed).

According to table 9, it can be concluded that:

- 1) The value of correlation coefficient (r) between Money supply variable and IHSG variable is 0.937. The value of $r = 0.937$ is in the range of 0.80 to 1.00 meaning that the correlation between money supply and IHSG can be categorized as having a very strong correlation.
- 2) The value of correlation coefficient (r) between Inflation rate variable and IHSG variable is -0.075. The value of $r = -0.075$ is in the range of -0.20 to 0 meaning that the correlation between inflation rate and IHSG can be categorized as having a very weak correlation.

C. Simultaneous Correlation Coefficient Analysis

Simultaneous Correlation Coefficient analysis is used to find the magnitude of the relationship that occurs between the four independent variables equally with the dependent variable. Table 8 shows the result of the data analysis done by using SPSS version 20.

Table 10. The Summary of Simultaneous Correlation Coefficient Model

Model	R	R Square	Adjusted R	Std. Error en'
1	0.973	0.947	0.920	391.05418

- a. Predictors: (Constant), money supply, inflation rate.
b. Dependent Variable: IHSG

According to table 8, the value of R simultaneous = 0,973. This value is in the range of 0.80 to 1.00. This means that the correlation between the money supply and the inflation rate variables together on IHSG variable can be categorized as having a very strongly correlation.

D. The Result of Determinant Coefficient Test

The impact of the independent variable (Rupiah Exchange Rate, inflation rate, and the money supply) simultaneously on the dependent variable (IHSG) can be seen from the magnitude of the determinant coefficient (R²) which is in the formula between 0 and 1. Table 9 shows the result of this test.

Table 11. The Summary of Determinant Coefficient Model

Model	R	R ²	Adjusted R ²	Std. Error of the Estimate
1	0.9732	0.947	0.920	391.05418

- a. Predictors: (Constant), money supply, inflation rate
b. Dependent Variable: IHSG

Table 11 shows determinant coefficient (R²) = 0.947 or 94.7%. This means that 94.7% of the influence to IHSG is contributed by the independent variables (money supply and inflation rate) together on the dependent variable (IHSG). Meanwhile, the rest (which is 100 – 94.7 = 5.3%) is the influence of outside variables not examined in this research.

3.3.Hypothesis Test Analysis

A. Test of F value

Test of F value or Analysis of Variance (Anova) basically shows whether all the independent variables intended in the model have a joint influence on the independent variables. The F value in the Anova table is also intended to see whether or not the model used is correct for the problem at hand. This test was done using SPSS version 20 which can be seen in table 10 below.

Table 12. The result Anova

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	16271083.450	3	5423694.483	35.467	0.000"
1	917540.224	6	152923.371		
Residual	17188623.673	9			
Total					

a. Dependent Variable: IHSG

b. Predictors: (Constant), money supply, inflation rate

The hypothesis testing procedure using the Test of F value is as follows:

1) Formulating hypothesis

Ho: Money Supply and inflation rate has no impact simultaneously on IHSG.

Ha: Money supply and inflation rate simultaneously has an impact simultaneously on IHSG.

2) Significance rate (α) = 0,05.

3) Degree of Freedom (df) numerator = 3; df denominator = $n-3-1 = 10-5 = 5$ Thus, the value of $F_{table} = 5.41$.

4) The value of F_{count} from SPSS calculation = 35.467

5) Conclusion: The value of F_{count} is bigger than F_{table} which is $35.567 > 5.41$, thus Ho is rejected. Accordingly, Ha is accepted which means that Rupiah exchange rate, Inflation rate, and money supply has an impact simultaneously on IHSG. Furthermore, the value of significance rate of F_{count} is 0.000. since the rate of 0.000 is smaller than the significance rate (α) of 0.05, then the regression model can be used to predict the IHSG value. This means that there is an impact of money supply and inflation rate simultaneously on IHSG.

The result of the regression analysis shows that the independent variables together have a significant effect on the dependent variable. This can be proven by sig 0.000 < 0.05 and F_{count} 35.467. Regression models thus can be used to predict IHSG or it can be said that the amount of money supply and inflation rate together has an impact on IHSG.

B. Partial test of the t value

Partial test of the t value aims to examine the effect of each independent variable (Money Supply and Inflation Rate) on the dependent variable (IHSG). The results of the regression coefficient analysis test using SPSS version 20 can be seen in table 11 below.

Table 13. Result of the partial test of the t value
Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std.	Beta		
(Constant)	2792.05	1122.474		2.487	0.047
Money supply	0.131	0.014	1.176	9.213	0.000
Inflation rate	0.336	0.281	123	1.195	0.277

a. Dependent Variable: IHSG

This study tries to examine how the amount of money supply and Inflation rate influenced the composite stock price index, specifically the Indonesia Composite Index or IHSG for the period of 2008-2017. Based on the results of the multiple regression analysis, it shows that all proposed hypotheses are accepted. Based on the results and analysis that have been discussed, this research can be concluded as follows:

1. The Amount of money supply together has a significant effect on IHSG. This is evidenced by sig $0.00 < 0.05$ and Fcount of 35.467 with determinant coefficient $(R^2) = 0,947$ or 94.7%. This means that 94.7% influence on IHSG are contributed by independent variables (money supply and inflation rate) together on independent variable (IHSG). Meanwhile, the rest (which is $100 - 94.7 = 5.3\%$) is the influence of outside variables not examined in this research.
2. The Amount of money supply has a significant effect on the IHSG, in accordance with the hypothesis. This is evidenced by sig $0.00 < 0.05$ and tcount of 9.213 for the regression coefficient of 0.131 with a significance level of 5% and significance value of 0.00 (smaller than the significance level of 0.05).
3. The inflation rate has no significant effect on the IHSG. This is evidenced by sig $0.277 > 0.05$ and tcount of 1.195 for the regression coefficient of 0.336 with a significance level of 5% and significance value of 0.227 (greater than the significance level of 0.05)

4. Conclusion

This study aims to test empirically the effect of inflation on SBI and its impact on EPS. This research was conducted on the property and real estate industry. Based on the results of analysis and testing in accordance with the formulation of the problem, this study produces findings that can be concluded as follows:

1. The inflation rate has a positive and significant effect on EPS in property and real estate companies listed on the IDX. These empirical findings prove that the research hypothesis can be accepted. This means that the higher the inflation rate, the higher the EPS of the property and real estate companies listed on the IDX.
2. SBI has a positive but not significant effect on EPS. The increase in the value of SBI will not significantly increase the EPS shares of property and real estate companies listed on the IDX.

3. The inflation rate has a positive but not significant effect on SBI. These empirical findings prove that the research hypothesis is unacceptable or it is not proven that changes in inflation will not significantly cause changes in the SBI value. This means that the higher the level of inflation, it does not actually cause the SBI to rise.
4. The inflation rate has an indirect and insignificant effect through SBI on EPS. The empirical findings prove that the research hypothesis cannot be accepted.

Suggestion

Suggestions in the study are aimed at further researchers who are interested in developing this study and better results are related to the variables that have an influence on the stock prices of property and real estate companies listed on the Indonesia Stock Exchange:

1. This research can be developed by adding other variables that affect stock prices, for example the level of leverage, profitability, and interest rates on credit.
2. This research can be developed with other models, for example with variable moderating.
3. The study period is longer than 5 years. Future research is suggested to increase the research period and company samples so that more observation data will be studied so that the distribution of the data will be better.

Reference

- Aryasta, I. N., & Sri Artini, L. G. (2019). The Effects of Indonesian Macroeconomic Indicators and Global Stock Price Index on the Composite Stock Prices Index in Indonesia. *Information and Knowledge Management*. <https://doi.org/10.7176/IKM/9-9-03>
- Darman, D. (2016). Analysis of the Money Supply and Interest Rate of Inflation in Indonesia. *The Winners*, 17(1), 9. <https://doi.org/10.21512/tw.v17i1.1804>
- Demir, C. (2019). Macroeconomic Determinants of Stock Market Fluctuations: The Case of BIST-100. *Economies*, 7(1), 8. <https://doi.org/10.3390/economies7010008>
- Divianto. (2013). Analisis Pengaruh Tingkat Inflasi, Tingkat Suku Bunga SBI, dan Nilai Kurs USD Terhadap Indeks Harga Saham Gabungan (IHSG) di BEI. *Jurnal Ekonomi Dan Informasi Akuntansi (JENIUS)*, 3(2), 165–197.
- Divisi Statistik Moneter dan Fiskal. (2020). Perkembangan Uang Beredar. Retrieved June 15, 2020, from <https://www.bi.go.id/id/publikasi/perkembangan/Default.aspx>
- Esumanba, S. V., Danaa, N., & Konadu, N. E. A. (2019). The Impact of Money Supply on Inflation Rate in Ghana. *Research Journal of Finance and Accounting*, 10(16), 156–170. <https://doi.org/10.7176/RJFA/10-16-17>
- Gelman, A., & Nolan, D. (2017). *Teaching Statistics: A Bag of Tricks*. New York: Oxford University Press. <https://doi.org/10.1093/oso/9780198785699.003.0003>
- Ghozali, I. (2005). *Aplikasi Analisis Multivariate dengan Program SPSS*. Semarang: Badan Penerbit Universitas Diponegoro.
- Jarniati, S. D., Fitrawaty, & Nugrahadhi, E. W. (2018). Analysis of the Determination of the Composite Stock Price Index in Indonesia Stock Exchange, 1996-2017. In

- Proceedings of the 1st Unimed International Conference on Economics Education and Social Science* (pp. 561–568). SCITEPRESS - Science and Technology Publications. <https://doi.org/10.5220/0009506305610568>
- Parlina, N. D. (2017). Influence Inflation of Composite Stock Share Price Index Listed in BEI Jakarta. *JURISMA : Jurnal Riset Bisnis & Manajemen*, 7(1). <https://doi.org/10.34010/jurisma.v7i1.440>
- Robiyanto, R. (2018). Performance Evaluation of Stock Price Indexes in the Indonesia Stock Exchange. *International Research Journal of Business Studies*, 10(3), 173–182. <https://doi.org/10.21632/irjbs.10.3.173-182>
- Rosalyn, A. M. (2018). The Effect of Rupiah Exchange Rate and Inflation Rate Towards Composite Stock Price Index in Indonesia Stock Exchange. *Russian Journal of Agricultural and Socio-Economic Sciences*, 78(6), 53–58. <https://doi.org/10.18551/rjoas.2018-06.05>
- Silaen, S., & Widiyono. (2013). *Metode Penelitian Sosial untuk Penelitian Skripsi dan Tesis*. Jakarta: Media.
- Utami Daryono, A. T. S. (2013). Penentu Inflasi di Indonesia: Jumlah Uang Beredar, Nilai Tukar, atau Cadangan Devisa? *Jurnal Ekonomi & Studi Pembangunan*, 14(2), 144–152. Retrieved from <http://journal.umy.ac.id/index.php/esp/article/view/1266>
- Wahyudi, S., Hersugondo, H., Laksana, R. D., & Rudy, R. (2017). Macroeconomic Fundamental and Stock Price Index in Southeast Asia Countries: A Comparative Study. *International Journal of Economics and Financial Issues*, 7(2), 182–187. Retrieved from <https://www.econjournals.com/index.php/ijefi/article/view/3466>