The impact of inflation on growth of market index

Fenilisia Kanan
Corresponding author:
fenilisiakanan064@student.unsrat.ac.id
Sam Ratulangi University
Indonesia

Jumnibianti Nahading
Corresponding author:
Sam Ratulangi University
Indonesia

ABSTRACT

Inflation in Indonesia tends to fluctuate and has its lowest point in April 2023. This study aims to examine the relationship between inflation and market indexes in Indonesia. The sample for this study is the market index (or IHSG) for the period from January to April 2023. This study finds that inflation has a unidirectional relationship with the movement of the market index in Indonesia. In addition, this study finds that the growth of the market index throughout the observation period is 0.012%. The results of this study indicate that there is a stable condition in the capital market as the controlled inflation rates.

Keywords: returns; inflation; IHSG; economic growth
JEL Classification: E31; G11; G12

1. Introduction

Inflation is a macroeconomic indicator in determining economic growth. Salim et al. (2021), and Dwi and Pasaribu (2023) prove that inflation and economic growth have a positive relationship. This implies that an increase in inflation under certain conditions reflects good economic growth. On the other hand, the rising of inflation relatively does not directly affect the movement of stock index values in the Indonesian capital market (Fitriani et al., 2020; Ficsanes, 2022; Setiana & Permadhy, 2022; Hasnawati et al., 2023). Moreover, the findings of Fitriani et al. (2020), and Fitriyah and Abidin (2020) also imply that interest rates tend to increase as a controlling factor if there is an increase in inflation. As a result, the stock market index tends to decline as a result of rising interest rates (Sampurna, 2016; Fitriani et al., 2020). Figure 1 shows inflation and Indonesian market index during period January 2020 to April 2023.

Since 2022, Indonesia's economic conditions have begun to be affected by the issue of increasing national inflation. The issue continues until March 2023 as inflation tends to decrease in response to the government's interest rate policy. In addition, the monthly average development of the Composite Stock Price Index (IHSG) tends to increase since the beginning of 2023 to April 2023 since the COVID-19 pandemic. This study aims to examine the relationship of inflation and IHSG and also to determine the growth of

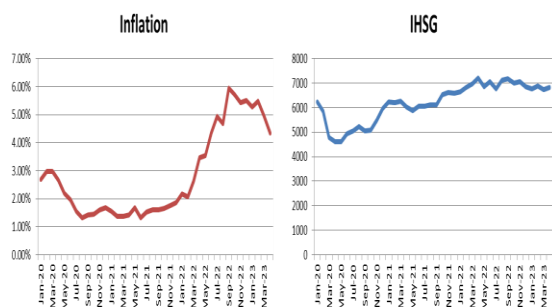the IHSG for first four month of 2023 in the context of the inflation issue.

Figure 1. Inflation and IHSG

2. Literature review

Empirically, the relationship between inflation and the IHSG has different results. Zulfa and Tan (2009), Asih and Akbar (2016), and Daffa (2023) report that increasing inflation in Indonesia tends to have a positive and significant impact on the market index or IHSG. In contrast, Ahmad and Badri (2022), and Al-Hanif et al. (2023) prove that any increase in inflation tends to be followed by a significant decrease in the market index. Other evidence from Fitriani et al. (2020), Setiana and Permadhy (2022), Hasnawati et al. (2023), Liantanu et al. (2023), and Wulan et al. (2023) find that inflation has no significant impact on the IHSG.

H1: Inflation has significant relationship on market index

3. Research method

In accordance with the objectives of this study, the observation period for inflation and the IHSG is carried out from January 2023 to April 2023. Based on the observation period, the number of samples used in this study is 76 observed data. The three variables used in this study are market index (symbolized by IHSG), inflation (symbolized by INF), and the rate of return of IHSG (symbolized by Return). IHSG is obtained from the Indonesia Stock Exchange while inflation is obtained from

the Indonesian Central Bank. The Return is calculated by the formula as follows.

$$\text{Return} = \frac{\text{IHSG}_t - \text{IHSG}_{t-1}}{\text{IHSG}_{t-1}}$$

In terms of hypothesis testing, this study uses correlation and analysis of variance (ANOVA) tests. The correlation test aims to determine the relationship between inflation and the IHSG while the ANOVA aims to determine the difference between the IHSG and Return between periods. At this stage, inflation is controlled based on the time, which is January (Jan) when the rate is 5.28%, February (Feb) when the rate is 5.47%, March (Mar) when the rate is 4.97%, and April (Apr) when the rate is 4.33%.

4. Result and discussion

Table 1 shows that the IHSG fluctuated from January to March but increased again in April when low inflation. This indicates that the market index has better conditions when decreases inflation. In addition, the Return also has the highest mean when inflation is at its lowest point in April, thus indicating that market returns have performed quite well when inflation has decreased. Moreover, the standard deviation (SD) also decreased in April, thus indicating less volatile market conditions. Consistently, both IHSG and Return have positive skewness which indicates a passive stock movement. Complimentary, this study calculates the geometric mean of Return and finds that the growth of market returns from January to April is 0.012%. Notice the work of Giri (2008), the growth of IHSG tends to be caused by good economic growth which followed by decrease in the inflation rate.

Table 1. Descriptive statistics

	Jan	Feb	Mar	Apr
IHSG				
Mean	6768.61	6885.58	6748.64	6831.37
SD	103.73	34.86	82.86	53.58
Skew	-0.39	-0.23	-0.79	1.21
Kurt	-1.45	-0.18	-0.36	0.37
Return				
Mean	0.0000	0.0000	-0.0002	0.0012
SD	0.0082	0.0045	0.0090	0.0052
Skew	-1.17	-0.11	-0.12	0.83
Kurt	1.96	-0.20	0.43	0.26

This study continues the next stage by carrying out a normality test which is the basic assumption in conducting correlation tests and ANOVA. Table 2 presents the results of the normality test using the Kolmogorov-Smirnov test. The results of the analysis at the 5% level show that the IHSG and Return are normally distributed while inflation is not normally distributed.

Table 2. Normality test

	IHSG	Return	Inflation
Normal parameters			
Mean	6805.43	0.0001	0.2638
SD	92.88	0.0070	0.0257
Most extreme differences			
Absolute	0.12	0.07	0.24
Positive	0.07	0.04	0.24
Negative	-0.12	-0.07	-0.15
Z statistics	1.03	0.61	2.07
Asymp. Sig.	0.24	0.85	0.00

Based on the normality test, this study conducted a non-parametric correlation test (Kendall's tau). Table 3 presents the correlation matrix between inflation and the IHSG which is at the level of 5%. This study finds that inflation has a positive and significant relationship with the IHSG. This result implies that inflation has a unidirectional relationship with the IHSG or in the sense that an increase in inflation will be accompanied by an increase in the IHSG so hypothesis (H1) of this study can

be accepted. On this finding, this study is consistent with the findings of Zulfa and Tan (2009), Asih and Akbar (2016), and Daffa (2023). Otherwise, the finding of this study is inconsistent with the findings of Ahmad and Badri (2022), Al-Hanif et al. (2023), Fitriani et al. (2020), Setiana and Permadhy (2022), Hasnawati et al. (2023), Liantanu et al. (2023), and Wulan et al. (2023). Refers to Salim et al. (2021), and Dwi and Pasaribu (2023), the results of this study also indicate that Indonesia is experiencing better economic growth as reflected in the IHSG growth of 0.012% and a controlled inflation rate.

Table 3. Correlations test

	IHSG	Inflation
IHSG	1.000	0.355**
Inflation	0.355**	1.000

** is significant at 5%

Table 4 presents the results of ANOVA at the level of significance at 5%. The results show that there are significant differences between periods for the IHSG while the differences in Returns between periods are insignificant.

Table 4. ANOVA

	SS	df	MS	F
IHSG				
BG	234096.64	3	78032.21	13.605**
WG	412948.31	72	5735.39	
Total	647044.95	75		
Return				
BG	0.00	3	0.00	0.121
WG	0.00	72	0.00	
Total	0.00	75		

BG is between groups, WG is within groups, SS is sum of squares, MS is mean square, and ** is level of significance at 5%

Furthermore, Table 5 shows that the variances of IHSG are not assumed while the variances of Return are assumed at level of 5%. On those results, the difference test for IHSG uses the Games-

Howell test while the difference test for Return uses the Bonferroni test.

Table 5. Test of homogeneity of variances

	Levene Statistic	df1	df2	Sig.
IHSG	11.290	3	72	0.000
Return	2.417	3	72	0.073

Table 6 presents the results of the post-hoc tests for IHSG (based on the Games-Howell test) and Return (based on the Bonferroni test). The results of the analysis show that Feb has the highest IHSG significantly compared to Jan, Mar, and Apr. However, the results of the analysis also show that the Return during the period of Jan to Apr does not experience a significant difference, thus indicating a similar market index performance.

Table 6. Post-hoc test

			Difference
IHSG	Jan	Feb	-116.97**
		Mar	19.97
		Apr	-62.76
	Feb	Jan	116.97**
		Mar	136.94**
		Apr	54.20**
	Mar	Jan	-19.97
		Feb	-136.94**
		Apr	-82.74**
	Apr	Jan	62.76
		Feb	-54.20**
		Mar	82.74**
Return	Jan	Feb	-0.00008
		Mar	0.00018
		Apr	-0.00121
	Feb	Jan	0.00008
		Mar	0.00026
		Apr	-0.00112
	Mar	Jan	-0.00018
		Feb	-0.00026
		Apr	-0.00139
	Apr	Jan	0.00121
		Feb	0.00112
		Mar	0.00139

** is level of significance at 5%

5. Conclusion

In early 2023, the issue of inflation becomes public concern in Indonesia related to economic growth and capital market conditions. The purpose of this study is to examine the relationship between inflation and the market index in Indonesia and finds a unidirectional and significant relationship. This result implies that an increase in inflation will be accompanied by an increase in the market index. In addition, this study also finds that during the period from January to April 2023, the market index in Indonesia grew by 0.012%. These results indicate that Indonesia is experiencing good economic growth with the controlled inflation rate.

References

Ahmad, S. J., & Badri, J. (2022). Pengaruh inflasi dan tingkat suku bunga terhadap indeks harga saham gabungan yang terdaftar di Bursa Efek Indonesia pada tahun 2013-2021. *Jurnal Economina, 1*(3), 679-689. DOI: 10.55681/economina.v1i3.160

Al-Hanif, M. F. I., Qurrota'aini, F. R., Muna, N., & Prastiwi, H. R. (2023). Analisis pengaruh inflasi dan kurs terhadap Indeks Harga Saham Gabungan (IHSG). *AKUA: Jurnal Akuntansi dan Keuangan, 2*(1), 40-48. https://journal.yp3a.org/index.php/akua/article/view/1340

Asih, N. W. S., & Akbar, M. (2016). Analisis pengaruh inflasi, suku bunga, nilai tukar (kurs) dan pertumbuhan Produk Domestik Bruto (PDB) terhadap Indeks Harga Saham Gabungan (IHSG) studi kasus pada perusahaan properti yang terdaftar di Bursa Efek Indonesia. *Jurnal Manajemen dan Akuntansi, 17*(1), 43-52. http://journal.stiei-kayutangi-bjm.ac.id/index.php/jma/article/view/269

Daffa, M. (2023). Pengaruh inflasi, tingkat suku bunga dan nilai tukar terhadap Indeks Harga Saham Gabungan (IHSG) Bursa Efek

Indonesia. *Journal of Business & Management*, *1*(1), 17-32. DOI: 10.47747/jbm.v1i1.935

Dwi, Y., & Pasaribu, J. P. K. (2023). Pengaruh inflasi terhadap pertumbuhan ekonomi di Indonesia Periode 2013-2021. *JUMANAGE Jurnal Ilmiah Manajemen dan Kewirausahaan, 2*(1), 131-137. https://ejournal.unama.ac.id/index.php/jumanage/article/view/673

Ficsanes, Z. C. (2022). Nilai tukar, inflasi, Net Profit Margin (NPM), Debt to Equity Ratio (DER), dan harga saham. *Jurnal Ilmiah Ekonomi Bisnis, 8*(3), 406-419. DOI: 10.35972/jieb.v8i3.877

Fitriani, W. N., Rapini, T., & Sumarsono, H. (2020). Pengaruh tingkat suku bunga, inflasi dan Indeks Dow Jones terhadap Indeks Harga Saham Gabungan di BEI tahun 2014-2018. *ISOQUANT: Jurnal Ekonomi, Manajemen dan Akuntansi, 4*(2), 252-265. DOI: 10.24269/iso.v4i2.491

Fitriyah, N., & Abidin, Z. (2020). Pengaruh inflasi pada suku bunga Bank Indonesia periode 2005-2015. *An-Nisbah: Jurnal Ekonomi Syariah, 7*(2), 454-481. DOI: 10.21274/an.v7i02.3199

Giri, E. F. (2008). Model pengaruh kinerja ekonomi dan kinerja pasar uang terhadap kinerja Bursa Efek Indonesia. *Journal of Theoretical and Applied Management (Jurnal Manajemen Teori Dan Terapan), 1*(1), 71-88. DOI: 10.20473/jmtt.v1i1.2356

Hasnawati, S., Hendrawaty, E., Taher, A. R. Y., Riyadi, S. E. E., Hutabarat, F. G., & Syafis, K. S. (2023). Pemodelan kausal pengaruh tingkat suku bunga dan inflasi terhadap IHSG di BEI. *Studi Ekonomi dan Kebijakan Publik, 1*(2), 73-82. DOI: 10.35912/sekp.v1i2.1475

Liantanu, A., Yanti, L. D., & Oktari, Y. (2023). Pengaruh suku bunga, nilai tukar (kurs) Rupiah, inflasi dan pertumbuhan produk domestik bruto terhadap Indeks Harga Saham Gabungan (IHSG) di Bursa Efek Indonesia Periode 2014-2021. *ECo-Buss, 5*(3), 1081-1094. DOI: 10.32877/eb.v5i3.698

Salim, A., Fadilla, & Purnamasari, A. (2021). Pengaruh inflasi terhadap pertumbuhan ekonomi Indonesia. *Ekonomica Sharia: Jurnal Pemikiran dan Pengembangan Ekonomi Syariah, 7*(1), 17-28. https://ejournal.stebisigm.ac.id/index.php/esha/article/view/268

Sampurna, D. S. S. (2016). Analisis pengaruh faktor-faktor ekonomi makro terhadap IHSG di Bursa Efek Indonesia (BEI). *Jurnal STEI Ekonomi, 25*(1), 54-73. https://ejournal.stei.ac.id/index.php/JEMI/article/view/71

Setiana, R. N. H., & Permadhy, Y. T. (2022). Analisis pengaruh faktor makroekonomi dan indeks global terhadap Indeks Harga Saham Gabungan Bursa Efek Indonesia. *Journal of Young Entrepreneurs, 1*(1), 66-81. https://ejournal.upnvj.ac.id/index.php/jye/article/view/5036

Wulan, R., Nurpadilah, N., & Pebrian, R. (2023). Pengaruh inflasi, harga minyak dunia, dan suku bunga (BI RATE) terhadap Indeks Harga Saham Gabungan (IHSG). *Jurnal Pijar*, *1*(2), 130-143. https://e-journal.naureendigition.com/index.php/pmb/article/view/191

Zulfa, A., & Tan, J. (2009). Analisis pengaruh inflasi dan bunga SBI terhadap IHSG di BEI. *Jurnal Dinamika Ekonomi & Bisnis, 6*(2), 159-170. https://ejournal.unisnu.ac.id/JDEB/article/view/141