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# Interest Rate, Inflation and Jakarta Composite Index on Digital Media Based Companies Stock Return in Indonesia

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**Abstract.** In this paper, we found the evidence of the effect of interest rates, inflation and Jakarta Composite Index on stock returns of digital-based mass media companies listed on the Indonesia Stock Exchange. Objects have taken as a sample of 5 digital-based mass media companies listed on the Indonesia Stock Exchange with a research period from July 2014 to June 2019. These objects are MNCN, ABBA, SCMA, LPLI, and TMPO. Samples were taken by a purposive method with the criteria of companies that have been registered before the study period and have a balanced company size. The analytical method used is path analysis with multiple linear regression models. Research data shows that MNCN, SCMA and LPLI stock prices tend to weaken, while ABBA and TMPO stock prices tend to strengthen from July 2014 to June 2019. The analysis results showed that the interest rate variable (X1) had a negative and significant effect on stock returns (Y1). The inflation variable (X2) had a positive and not significant effect on stock returns (Y1), the IHSG variable (X3) had a positive and significant effect on stock returns (Y1). Therefore, investors need to look at JCI's movements to optimize the return of stock digital media-based companies.

## 1. Introduction

Digital-based mass media really shows its great influence. The interests of capital have determined the direction of the growth of the media. In carrying out their business, the owners of the media intersect with power. Conglomerates that had not played in the media business began to explore this business. Fourteen conglomerates are listed in the media business in Indonesia [1] and five of them have entered the stock market, including: MNC Nusantara Citra (MNCN), Mahaka Group (ABBA), Surya Citra Media (SCMA), Star Pasific (LPLI), Tempo Inti Media (TMPO). The performance of mass media stocks during this decade has fluctuated following economic conditions. The ABBA share price increased from July 2014 to June 2019, namely IDR 80,- to IDR 175,-. LPLI's share price weakened to IDR 121,- from IDR 520,-. MNCN's share price weakened to IDR 1,040,- from IDR 2,760,-. SCMA's share price also weakened to IDR 1,610,- from IDR 3,585,-. While TMPO's share price strengthened from IDR 107,- to IDR 180,-.

Improved media stock returns are still likely. Some of the factors that influence it include interest rates, inflation and Jakarta Composite Index. The influence on interest rates and stock returns is negative and significant [2]. This is reinforced by the results of research [2-3] which mentions empirically proven that interest rates negatively affect stock returns. Inflation has a negative and significant effect on stock returns [4-5]. The same results are shown by [6] which shows a negative relationship between inflation



and stock returns. The risk to invest is quite large because high inflation will reduce the rate of return from investors [7].

A study entitled "The Effect of Interest Rates and Jakarta Composite Index (JCI) on Property Sector Stock Returns for the 2008 - 2012 period, concluded that there was a very strong relationship between JCI and Stock Returns. This is indicated by a correlation value of 0.872 and the JCI has a significant positive effect on stock returns [8]. Considering the important role of digital-based mass media today in influencing the economic and political factors of the Indonesian nation, we are focusing our research objects on five mass media companies listed on the Indonesia Stock Exchange. The factors studied were the influence of interest rates, inflation and Jakarta Composite Index on stock returns of mass media companies.

## 2. Methodology

This study used a causal relationship where there are independent variables that affect the dependent variable method. The research variables consist of interest rates, inflation, Jakarta Composite Index (JCI) as the independent variable and stock returns of digital-based mass media companies as the dependent variable. The scope of this research is the mass media companies included in the Advertising, Printing and Media sub-sectors that have been listed on the Stock Exchange of Indonesia.

The sampling technique uses purposive sampling technique with the following criteria: (1) Mass media companies that have been listed on the Indonesia Stock Exchange, (2) Mass media companies that issue financial reports for 2014 - 2019, (3) Mass media companies whose shares are active during the year 2014 - 2019. Based on these criteria from 14 digital-based mass media companies in Indonesia, only 5 companies met the requirements and were sampled in this study.

Statistical analysis includes multiple linear regression by first conducting a classic assumption test that includes the normality test, the autocorrelation test (the Durbin Watson test), the heteroscedastic test, the multicollinearity test. The test statistic uses the F test to test the suitability of the multiple linear regression model and the t-test to test the partial effect, by estimating the research model:

$$Y_1 = \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e_1 \quad (1)$$

$Y_1$  = Stock Returns

$X_1$  = Interest Rate

$X_2$  = Inflation

$X_3$  = Jakarta Composite Index

$\beta_1$  = path coefficients  $X_1$  with  $Y_1$

$\beta_2$  = path coefficients  $X_2$  with  $Y_1$

$\beta_3$  = path coefficients  $X_3$  with  $Y_1$

## 3. Result and Discussions

The results of share prices, interest rate, inflation and JCI can be seen in the following figures:

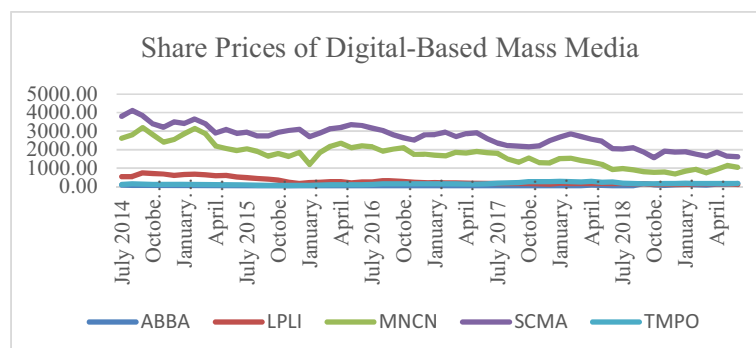


Figure 1. Shares Prices of Digital-Based Mass Media

MNCN has officially launched the online news portal site okezone.com on March 1, 2007. Currently, okezone.com is ranked second for the most popular news portal category in Indonesia with more than 150 million visitors in 2017. Besides okezone.com, MNC also has Linktone, Me Tube and Moviebay. MNCN also has National TV media (RCTI, MNCTV, GTV and iNews TV), print media (Seputar Indonesia, Sindo Weekly, Highend, Just For Kids, Highend Teen, Network!). Then the radio media (MNC Trijaya FM, Global Radio, RDI Radio, V Radio) and MNC Sky Vision as subscription TV with the largest market share in Indonesia. Based on trading activities on the stock exchange, MNCN's share prices showed a significant decline from July 2014 (IDR 2,760) to June 2019 (IDR 1,040.-)

Mahaka Group (ABBA) has experienced an increase in share prices from July 2014 (IDR 80,-) to June 2019 (IDR 175,-). The increase in share prices was accompanied by an increasing number of online media visitors republika.co.id, Jak-tv.co.id, 98.7 GenFM.co.id and 101 JakFM.co.id. Also, ABBA has TV (Jak TV), radio (101 Jak FM, 98.7 Gen FM), and print (Republika newspapers, Golf Digest). Star Pacific (LPLI) is a media company under the auspices of BeritaSatu Media Holdings. LPLI has an online news portal, beritasatu.com, and the Jakarta globe.com. Besides, LPLI has TV (BeritaSatu News Channel, BeritaSatu English, BeritaSatu Sports, Jakarta Globe TV, and BeritaSatu World). News Radio One FM and B1 Radio. Newspapers (The Jakarta Globe, Suara Pembaruan, Investor Daily, and The Straits Times). Magazine (Globe Asia, The Peak Campus Asia, Investor Magazine, Student Globe, Kemang Buzz, and Campus Life). Based on trading activities on the stock exchange, LPLI share prices showed significant ups from July 2014 (IDR 520, -) to June 2019 (IDR 121, -)

Surya Citra Media (SCMA) has owned liputan6.com since August 2000. liputan6.com has become a news site and is ranked among the five largest portals in Indonesia. SCMA also has three TV channels namely SCTV, Indosiar, and O'Channel. Based on trading activities on the stock exchange, SCMA's share price showed a significant decline from June 2014 (IDR 3,585,-) to July 2019 (IDR 1,610,-).

Tempo Inti Media (TMPO) has tempo.co as an online news portal since 1995 with the concept of being read and trusted. TMPO also has TV (Tempo TV, Tempo Channel), publishing (Tempo Magazine, Tempo Newspaper, Tempo Makassar Newspaper, Tempo English, Travelounge, Komunika, and Aha! I Know), Based on trading activities on the stock exchange, PT Tempo Inti Media, Tbk stock prices show a significant an increase from June 2014 (IDR 107, -) to July 2019 (IDR 180, -)

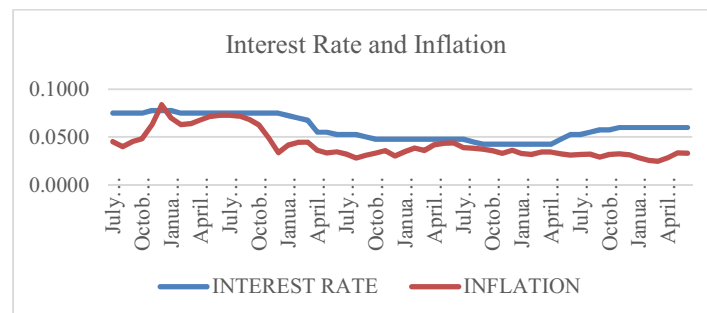


Figure 2. Interest Rate and Inflation in Indonesia (July 2014 – June 2019)

Interest rates show a fixed percentage in the period July 2014 - December 2015 around 7.5%. While in January 2016 - December 2016 there was a decline but stable at 6.0%. Then in January 2017 - May 2018 decreased to 4.75%. From April 2018 to June 2019 there was a steady increase of 6%.

From the figure 2 above, it shows that Inflation at the beginning of July 2014 was recorded at 4.53%, an increase at the end of December 2014 amounting to 8.36%. Then there was a decrease from 6.96% in January 2015 to 3.28% in June 2019.

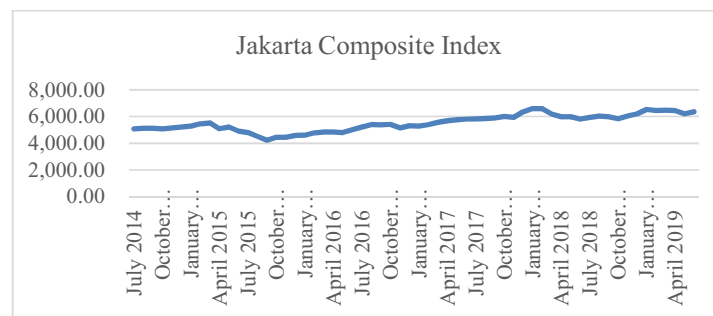


Figure 3. Jakarta Composite Index (July 2014 – June 2019)

Meanwhile, JCI showed a significant increase starting in July 2014 of 5,088 to May 2016 amounting to 5,216.38. Then began to fall in June 2015 amounted to 4,910.66 until May 2016 amounted to 4,796.87. Good economic development makes JCI continue to increase from June 2016 amounted to 5,016.65 until June 2019 amounted to 6,358.63.

The testing multiple linear regression models shown the results as following table:

**Table 1.** Results of Multiple Linear Regression Tests

Variable	Coef Regresi	Std. Error	t-test	Sig	Conclusion
(Constant)		0.008			
Interest Rate	-0.111	0.185	-1.977	0.049	Significant
Inflasi	0.003	0.056	0.047	0.963	Not Significant
JCI	0.232	0.240	4.030	0.000	Significant
R	0.264				
R-Squared	0.070				
Adj R-Squared	0.060				
F-test	7.404				
Probability F	0.000				

Based on the table obtained by the equation model:

$$Y_1 = -0,111 X_1 + 0,03 X_2 + 0,232 X_3 \quad (2)$$

The test results show that interest rates, inflation and JCI have a significant effect on stock returns with a probability value of 0 and use a significance rate of 95%. The results of the calculation of the coefficient of determination (R-Squared) of 0.07 or 7%. This means that 7% of the variation in stock returns is explained by variable interest rates, inflation and JCI. While the remaining 93% is explained by other factors not included in the model. The adjusted R Square value of 0.06 explains that the regression results for interest, inflation and JCI variables can explain the stock return of 6%. Partially, interest rates have a negative regression coefficient. This shows that an increase in interest rates will reduce stock returns. The table also shows that the results of statistical tests using the t-test partially interest rates have a significant effect on stock returns with a probability value of 0.049. The results of this study are consistent with the findings [2-3].

Suryati study found that interest rates have a negative influence on stock returns [9]. This is due to the property company is engaged in developing shopping areas and offices that do not use the mortgage system. So when interest rates are high, investors tend to choose to save money in the form of deposits in banks so that it will reduce investment in the stock market. Whereas reference [2] shows that interest rates have negative regression coefficient values on stock returns. This implies an increase in interest rates will reduce stock returns. Changes in interest rates can affect the variability of an investment's return. If interest rates increase, the share price will go down and vice versa. The reason is that if the interest rate is higher than the rate of return on stock investments, investors will be more interested in investing their wealth in the form of deposits [10].

The results differ from the reference findings [11] which states that interest rates have a positive and significant effect on stock returns. Perhaps this is due to the characteristics of different research objects. The results of this study indicate that investors should pay attention to interest rate movements because government control through changes in interest rates of Bank Indonesia will affect the ups and downs of stock returns. The results showed that inflation has a positive regression coefficient. Means that an increase in the inflation rate will increase stock returns. T-test results indicate that partially inflation does not have a significant effect on returns with a probability value of 4,030. The results of this study are consistent with findings [12-13]. Hooker study are slightly different [14]. The results of his research indicate that inflation affects positively and significantly on stock prices. The positive effect of inflation shows that inflation that occurred in the study period was relatively low. A low inflation rate has a positive influence in the sense that it can drive the economy better, namely increasing national income and making people excited to try, increasing investment, one of which is in the capital market.

The insignificant results of the study occurred because the average inflation during the study period was 4.2%, which the market could still accept if the inflation rate was below 10%. But if the inflation rate is above 10%, Bank Indonesia will increase the Bank Indonesia Rate to encourage investors to shift their capital to the banking sector. And in such circumstances the capital market will be disrupted by [15]. The test results show that the Jakarta Composite Index has a positive coefficient. This means that an increase in the JCI will increase stock returns. The results of statistical tests using the t-test indicate that the JCI partially has a significant effect on stock returns with a probability value of 0. The results of this study are in accordance with the research findings [8]. The results of the study indicate that investors need to observe the movement of the JCI in order to be able to predict the benefits of their investments.

#### 4. Conclusion

Conclusion of this paper was the interest rates, inflation and Jakarta Composite Index (JCI) have a significant effect on stock returns. Interest rates have a negative and significant effect on stock returns. Inflation has a positive and not significant effect on stock returns. JCI has a positive and significant effect on stock returns. Therefore investors should pay attention to movements in interest rates, inflation and JCI on the Indonesia Stock Exchange. This study has several limitations in terms of developing research models, analytical techniques, and number of samples and measurement of variables. The possibility of further research is to increase the research period, expand the unit of analysis, examine the internal aspects of the company and add other global index variables.

#### References

- [1] M. Lim, “@ Crossroads: Democratization & Corporatization of Media in Indonesia,” pp. 1–32, 2011.
- [2] S. Kim, S. Y. Kim, and K. Choi, “Modeling and analysis for stock return movements along with exchange rates and interest rates in Markov regime-switching models,” *Cluster Comput.*, no. January 1993, pp. 1–10, 2017.
- [3] S. Kasman, G. Vardar, and G. Tunç, “The impact of interest rate and exchange rate volatility on banks’ stock returns and volatility: Evidence from Turkey,” *Econ. Model.*, vol. 28, no. 3, pp. 1328–1334, 2011.

- [4] G. Adams, G. McQueen, and R. Wood, "The effects of inflation news on high frequency stock returns," *J. Bus.*, vol. 77, no. 3, pp. 547–574, 2004.
- [5] O. Bibiana and E. Victor, "THE RELATIONSHIP BETWEEN STOCK RETURNS AND INFLATION RATES IN NIGERIA FROM 1995 to 2014," vol. VI, no. 2, pp. 509–523, 2018.
- [6] J. K. M. Kuwornu, "Effect of macroeconomic variables on the ghanaian stock market returns: A co-integration analysis," *Agris On-line Pap. Econ. Informatics*, vol. 4, no. 2, pp. 15–26, 2012.
- [7] R. Pimentel and T. Choudhry, "Stock returns under high inflation and interest rates: Evidence from the Brazilian market," *Emerg. Mark. Financ. Trade*, vol. 50, no. 1, pp. 71–92, 2014.
- [8] R. D. Mulyadin, "Analisis Pengaruh Suku Bunga dan IHSG terhadap Return Saham pada Sektor Pertambangan Periode 2008-2012." Universitas Widyatama, 2013.
- [9] S. Suyati and P. Studi Akuntansi Fakultas Ekonomika dan Bisnis, "Pengaruh Inflasi, Tingkat Suku Bunga Dan Nilai Tukar Rupiah/Us Dollar Terhadap Return Saham Properti Yang Terdaftar Di Bursa Efek Indonesia," *Serat Acitya-Jurnal Ilm. UNTAG Semarang*, vol. 4, no. 3, pp. 2302–2752, 2015.
- [10] U. Makaryanawati, "Pengaruh Tingkat Suku Bunga dan Tingkat Likuiditas Perusahaan terhadap Risiko Investasi Saham yang Terdaftar pada Jakarta Islamic Index," *KARYA DOSEN Fak. Ekon. UM*, 2010.
- [11] A. Mouna and J. Anis, "Market, interest rate, and exchange rate risk effects on financial stock returns during the financial crisis: AGARCH-M approach," *Cogent Econ. Financ.*, vol. 4, no. 1, pp. 1–16, 2016.
- [12] C. Zopounidis, P. M. Pardalos, G. Baourakis, J. GUPTA, A. CHEVALIER, and F. SAYEKT, "the Causality Between Interest Rate, Exchange Rate and Stock Price in Emerging Markets: the Case of the Jakarta Stock Exchange," *Fuzzy Sets Manag. Econ. Mark.*, pp. 145–163, 2001.
- [13] S. Park, "Activity," vol. 53, no. 5, pp. 52–56, 2014.
- [14] M. A. Hooker, "Macroeconomic factors and emerging market equity returns: A Bayesian model selection approach," *Emerg. Mark. Rev.*, vol. 5, no. 4, pp. 379–387, 2004.
- [15] S. S. Kewal, "Pengaruh inflasi, suku bunga, kurs, dan pertumbuhan PDB terhadap indeks harga saham gabungan," *J. Econ.*, vol. 8, no. 1, pp. 53–64, 2012.