

The Effect of Inflation, Rupiah Exchange, Interest Rate, Earning Volatility and Cash Holding on Stock Prices of Manufacturing Companies Listed on IDX



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ABSTRACT: Researchers are looking at how inflation, rupiah exchange rates, interest rates, earnings volatility, and cash holdings influence stock prices. This is a quantitative research that utilizes secondary data from the Indonesian Stock Exchange. Based on the data, we can see that manufacturing firms' stock prices peaked in 2017 at 1,648.48, but dropped substantially in 2019 to 1471.84. The research shows that profit has a fluctuating role in manufacturing firms' net income. As a result, the researcher advises manufacturing firms to maintain their stock prices to keep investors interested in the sector.

KEYWORDS: Inflation, Rupiah Exchange Rate, Interest Rate, Earning Volatility and Cash Holding and Stock Price

I. PRELIMINARY

A. Background

Manufacturing production is intimately linked to handling raw, semi-finished, and completed materials for sale to customers. Money market instruments are one of the primary weapons for businesses to raise capital as a result of expanding enterprises and industries.

Inflation, exchange rates, and interest rates are factors to consider when choosing manufacturing company shares. For example, Astra Internasional Ltd. had the highest share price in 2017, then fell to Rp. 8,225 per lot in 2018, and then fell again in 2019 to Rp. 6,950 per lot, due to Astra's investment mistakes in 2019. We can understand how crucial inflation is to the business from this example. Indonesia's biggest manufacturing.

The following is a description of the company data of manufacturing entities that have been listed on the BEI at the time of year 2017-2019.

Table I.1 Manufacturing Index, Inflation, Interest Rate, Exchange Rate and JCI data for the period 2017-2019

NO	DESCRIPTION	2017	2018	2019
1	Manufacturing Index	1648,48	1650,70	1471,84
2	Inflation	3,61%	3,13%	2,72%
3	Interest Rate	4,25%	6%	5%
4	Exchange Rate	Rp. 13,565	Rp. 14,555	Rp. 13.945
5	JCI	6,355.654	6,194.498	6,329.314

Source: Indonesia Stcok Exchange

Table I.1 shows that the manufacturing stock index fell while the JCI grew. These data show how inflation, interest rates, currency rates, earnings volatility and cash holdings affect market movement of manufacturing companies. Indonesia.

Based on the description of the problem above, we as researchers are very interested in conducting a study entitled: **Influence Inflation, Exchange Rate Rupiah, Tribe Interest, Earning Volatility and Cash Holding on Price Share on Manufacturing company registered on the IDX.**

B. Influence Theory

1) Influence Inflation against Price Share

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According to Sadono Sukirno (2011: 165), inflation occurs when the cost of commodities rises while the value of the currency falls.

Dian Dian Efriyenty performed research in Indonesia (2020) Inflation has a little impact on equities, but too much inflation is bad for investors.

Using descriptive and regression techniques, Ima Andriyani and Crystha Aemero (2016) found a small impact on stock prices and the JCI.

According to Fitri Ramadani's (2014) research, inflation has no impact on a stock's price range.

Based on prior studies, we may infer that inflation has a little effect on stock values.

2) The Effect of the Rupiah Exchange Rate on Stock price

According to Nopirin (2012: 163), the exchange rate is the difference in value of two currencies from different nations.

Dian Efriyenty's research (2020) indicates that there is a favorable and substantial impact on stock prices.

Saputra (2019) found that the rupiah exchange rate has a favorable effect on stock prices and the JCI.

According to research Since an unstable exchange rate may influence stock values, we can infer that the rupiah exchange rate has a major impact on them.

3) The Effect of Interest Rates on Stock Prices

According to Sunariyah (2011:22), a decline in performance reduces dividend income, decreasing the appeal of stock ownership. Investors will eventually move on to higher-yielding assets.

An rising value of the US dollar leads stock prices to decrease, according to Bambang Susanto's (2015) research.

Stock prices are affected by the interest rates, as shown by Tri Nendhenk Rahayu & Masdar Masud (2019).

According to research Previously, interest rates influenced stock values greatly. The significant importance of influencing the rise and fall of equities shows this.

4) The Effect of Earning Volatility on Stock Prices

According to Sunariyah (2011:22), a decline in performance reduces dividend income, decreasing the appeal of stock ownership. Investors will eventually move on to higher-yielding assets.

Janny Rowena and Hendra (2017) found that earnings volatility has a detrimental impact on stock prices since the stock price is unclear. while picking a stock.

Taris Ghali Febrianda (2019) found that the impact on manufacturing firms is favorable but not substantial. If the corporation totals Manufacturing firms' profits cannot be anticipated, therefore the stock price will vary.

Based on prior study, earning volatility has to be studied further to see whether it has a good or negative impact and if it is substantial.

5) The Effect of Cash Holding on Stock Prices

According to Gill & Shah (2012), cash holding is cash held on hand (available) to be invested in assets or assets in form. distribute to stockholders

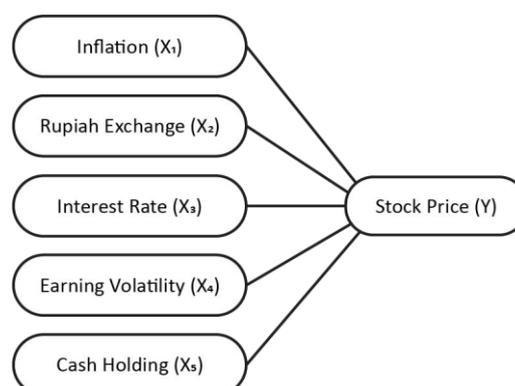
(3.786) > (2.04841) according to Meta Febriana, Fery Panjaitan, and Nelly Astuti's (2018) research (2.04841)

Previous study indicates that cash holding has a substantial impact on stock prices, however because to the paucity of journals, further research is required.

C. Conceptual Framework

The conceptual framework that can be arranged is as follows :

Picture 1.1



The Effect of Inflation, Rupiah Exchange, Interest Rate, Earning Volatility and Cash Holding on Stock Prices of Manufacturing Companies Listed on IDX

D. Research Hypothesis

Based on the conceptual framework described according to various experts, the researcher proposes a research hypothesis the following :

H1 : Inflation significantly influence Partial on the stock price of a manufacturing company that registered in BEI.

H2 : Exchange rate Rupiah take effect by Partial on price share manufacturing company which registered in BEI.

H3 : Interest Rates have an effect on partially on the stock price of manufacturing companies listed on the IDX.

H4 : Earning Volatility has an effect by Partial on the stock price of manufacturing companies registered in BEI.

H5 : Cash Holding take effect by Partial on the stock price of manufacturing companies which listed on the IDX.

H6 : Inflation, rupiah exchange rate, interest rates, earning volatility and cash holding have an effect by simultaneous on stock price manufacturing company registered in BEI.

II. RESEARCH METHOD

A. Research Time & Place

Object in study this is a company manufactures registered in IDX or www.idx.co.id . Study This uses secondary data, namely data from Bank official website Indonesian or www.bi.go.id as well as from other sources deemed relevant such as emiten.kontan.id and others. The study will be conducted from December 2020 - June 2021.

B. Method Study

Type deductive, quantitative and descriptive research are methods research used on this research.

C. Sample Population

The research population includes all companies registered in BEI from 2017 to 2019. This research included 195 firms. Purposive sampling was used to choose the study sample based on the researcher's criteria. Here are the criteria:

1. Company manufacturing registered in BEI
2. Company's annual financial report manufacturing in the period 2017-2019
3. Manufacturing company net profit in a row from 2017-2019
4. Dividend distribution by manufacturing companies consecutively during the year 2017-2019

Table II.1. Election Sample

No	Information	TOTAL
1.	Company manufacture registered in BEI	195
2.	Company manufacture which not publish report annual financial year period 2017-2019	(47)
3.	Company manufacture which did not get a net profit during 2017-2019.	(47)
4.	Manufacturing companies did not distribute dividends consecutively during 2017-2019.	(46)
	Total sample	55
	Total period	3
	Total Observation = 55 x 3	165

Total observation data in This research is 165 data observation.

D. Data collection technique

In collection data, researchers use documentation techniques, namely collecting data on sources of financial reports and documents related to manufacturing companies download the official site IDX from 2017 until 2019.

E. Type and Sumwith Research Data

Study it uses data secondary in each variable . Taken from the financial statements of manufacturing companies.

F. Identification and Variable Operational Definition

Definition Operational is the interpretation of the variables to be studied. Details of operational variables as follows:

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Table II.2. Definition Operational and Measurement Variable

Variable	Draft	Indicator	Scale
Inflation (X1)	Continuous increase in prices of goods and services. Source: www.bi.go.id	$\text{Inf}(t) = \frac{IHK(t) - IHK(t-1)}{IHK(t-1)} \times 100\%$ Source: Rokhim (2014)	Ratio
Exchange Rate (X2)	The relative price of a currency Source: Mahyus Ekananda (2014:168)	Middle rate = $\frac{\text{Buying Rate} + \text{Selling Rate}}{2}$ Source: www.bi.go.id	Ratio
Interest Rate (X3)	The price of the use of investment funds. Source: Boediono (2014:76)	BI rate as the benchmark interest rate Source: www.bi.go.id	Ratio
Earning Volatility (X4)	The rise and fall of profits generated by the company. Source: Jannah and Haridhi (2016)	$EVO = \frac{\text{Operating Profit}}{\text{Total Assets}}$ Source: Chaudry, Iqbal and Butt (2015)	Ratio
Cash Holding (X5)	Cash is a short-term investment, liquid and easy to convert and has insignificant risk. Source: NR Bhanumurthy (2018: 261)	Cash holding = $\frac{\text{Cash} + \text{Cash Equivalent}}{\text{Total Assets}}$ Source: Marfuah, Zuhilimi (2015)	Ratio
Share Price (Y)	Prices that take place on the stock market at a certain time. Source: Jogiyanto (2011: 143)	Closing share price (closing price). Source: Tjiptono and Fandy (2011:102)	Ratio

G. Classic assumption test

The absolute requirement of the classical assumption is multiple regression statistics. If these conditions are met, the linear regression model is called the best linear estimator, the test hypothesis. The classics of this research are:

1) Test Multicollinearity

Test multicollinearity was carried out to detect whether there was a correlation of independent variables in the multiple linear regression model. To detect whether the regression model variable has multicollinearity, we can look at the tolerance value > 0.10 or same with value VIF < 10.

2) Test Autocorrelation

Autocorrelation test is conducted to check whether there is a correlation between the previous period (T-1). Running test using autocorrelation test, so that decisions can be taken with the value of Asymp. Sig (2-tailed). If Asymp. Sig nilai value (2tailed) exceeds the significance level of 0.05, it can be concluded that there is no autocorrelation.

3) Heteroscedasticity Test

Heteroscedasticity testing is used to check whether there is an unequal variance from the residuals from the existing observations. In detecting heteroscedasticity, a scatter plot can be used by plotting the ZPRED (predicted value) value using SRESID (residual value).

H. Research Data Analysis Model 1) Research Model

Multiple linear regression analysis is the technique in this study. The similarities are:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5$$

Information :

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Y = Price Share X4 = *Earning Volatility* a = Constant X5 = *Cash Holding*
 X1 = Inflation b1,..b5 = Variable coefficient
 X2 = Interest rate

2) Coefficient of Determination

In knowing the overall size of the independent variable that shows the variance in the dependent variable, the coefficient of determination is used. Adjusted R-squared is the value we see.

3) Test T

Test T is done to find out whether each variable independent variable to the dependent variable there is an effect that is by comparing the T-count and T-table and see the significance value T test criteria are as follows:

H0 will be accepted if $-T\text{-table} < T\text{count} < T\text{-table}$ and significant > 0.05

Ha will be accepted if $-T\text{-count} < -T\text{-table}$ or $T\text{-count} > T\text{-table}$ and significant < 0.05

4) Test F

The F test is carried out to detect the effect of the overall variable independent of variable tied together, with compare FCalculate and F-Table as follows:

H0 will be accepted if $F\text{-count} < F\text{-table}$ and significant > 0.05

Ha will be accepted if $F\text{-count} > F\text{-table}$ and significant < 0.05

III. RESEARCH RESULTS AND DISCUSSION

A. Descriptive Statistical Analysis

In this study's observational data Totaled 165 data, derived from annual financial reports of 55 industrial firms during a 3 year period. Stock Price is affected by five independent variables: Inflation, Rupiah exchange, interest rates, earnings volatility, and cash holding. The findings of the descriptive statistical analysis for each sample are shown below.

Table III.1

Statistics Descriptive

Descriptive Statistics

	N	Minimum	Maximum	mean	Std. Deviation
Inflation	165	.0272	.0361	.031533	.0036482
Exchange rate	165	13548	14481	13976.67	385,805
Interest rate	165	.0425	.0600	.050833	.0071904
EVO	165	.0112	.5976	.118422	.0955829
Cash Holding	165	.0009	.6323	.125963	.1160638
Stock price	165	94	21950	3346.06	4357,421
Valid N (listwise)	165				

Descriptive analysis of Table III.1 using SPSS 26 for Windows:

1. The independent variable inflation contains 165 data points with the maximum value of 3.61 percent from December 2017. In December 2019, inflation hit 2.72 percent. The standard deviation is 0.36 percent
2. On December 31, 2018, the independent variable exchange rate with 165 data had the highest value of Rp. 14,481. The standard deviation is 385,805 and the mean is 13,976.67.
3. On December 20, 2018, the independent variable interest rate (165 data) reached its peak of 6%. The lowest rate, 4.25 percent, was on December 14, 2017. The standard deviation is 0.0072 and the mean is 5.0833%.
4. The independent variable is PT Unilever Indonesia Ltd.'s 2018 earnings volatility. In 2019, PT. Chandra Asri Petrochemical Ltd.'s earnings volatility was 0.112. The mean is 0.118, while the standard deviation is 0.096.
5. The independent variable cash holding with 165 data has the greatest value of 0.6323 from PT. Delta Djakarta Ltd. earnings volatility in 2018. The lowest amount is 0.0009 from PT. Wilmar Cahaya Indonesia Ltd.'s cash holdings in 2018. The standard deviation is 0.116, while the mean is 0.126.

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6. In 2017, the share price of PT. IndocementiTunggal Prakarsa Ltd. gave the variable price dependant stock the highest value of 21950. The highest figure is 94, derived from Budi Starch & Sweetener Ltd.'s share price in 2017. The standard deviation is 4357.47 and the mean is 3346.06.

B. Classic assumption test

1) Test Multicollinearity

Multicollinearity testing was conducted to determine the correlation between the independent variables in the regression model. We can detect multicollinearity through the tolerance value if the tolerance value is > 0.10 or equal to the Variance Inflation Factor (VIF) < 10 .

Table III.2
Multicollinearity Test
Coefficientsa

Model	Collinearity Statistics	
	Tolerance	VIF
(Constant)		
Ln Inflation	.849	1.177
1 Ln Kurs	.845	1.184
Ln EVO	.977	1.024
Ln CH	.975	1.026

a. Dependent Variable LN HS

Table III.2 shows that the study data did not exhibit multicollinearity since the whole variable's tolerance value surpassed 10. The correlation of the independent variables was utilized. Inflation, Exchange Rate, Earning Volatility, and Cash Holding variables have been transformed into natural logarithms to reduce the data range utilized. For further information on linear regression analysis, see Excluded Variables Table.

2) Autocorrelation Test

Time series research is required to perform an autocorrelation test. Autocorrelation was conducted to check the correlation between period t and the previous period ($t-1$). Run test is test autocorrelation in this study.

Table III.3
Test Autocorrelation
Runs Test

	Unstandardized Residual
Test Value	-11968
Cases < Test Value	82
Cases \geq Test Value	83
Total Cases	165
Number of Runs	93
Z	1.484
asyp. Sig. (2-tailed)	.138

a. median

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Test results *run test* meet the value criteria *asymp. Sig. (2-tailed) > 0.05* or 0.138 which proves that there is no autocorrelation symptom in this study.

3) Heteroscedasticity Test

Heteroscedasticity testing has the aim of detecting the occurrence of variance inequality from observations to other observations. The scatterplot method and the glejser test are the methods used in this heteroscedasticity test.

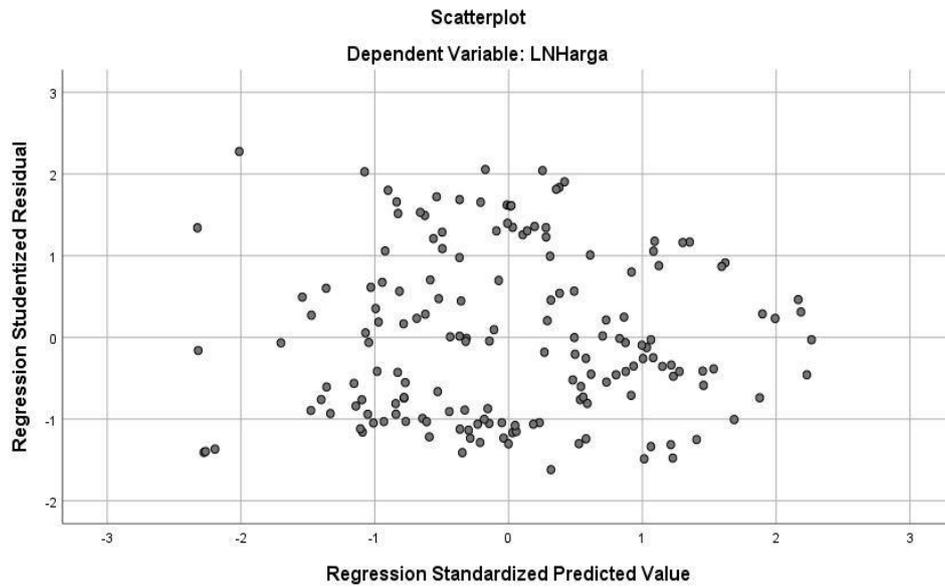


Figure 3.3

Scatterplot

Based on the picture above, it can be seen that the plot is randomly distributed so that we conclude that there is no heteroscedasticity in this observation.

Table III. 4
Glejser Test
Coefficientsa

Model	t	Sig.
(Constant)	-.089	.929
Ln_Inflation	.042	.967
1 Ln_Kurs	.122	.903
Ln_EVO	-3.457	.001
Ln_CH	1.151	.252

a. Dependent Variable: ABS_RES_LN

Table III.4 above shows that there is no heteroscedasticity in the data in this study. This can be seen from every Sig. of the four variables is higher than the predetermined significance probability limit that is > 0.05 .

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4) Hypothesis testing

4.1) Multiple Linear Regression Analysis

Table III.5

Multiple Linear Regression Analysis Equation

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	3,578	36,913		.097	.923
Ln_Inflation	-.166	.943	-.014	-176	.861
1 Ln_Kurs	.496	3.987	.010	-124	.901
Ln_EVO	.492	.139	.268	3.538	.001
Ln_CH	.166	.093	.135	1,781	.077

a. Dependent Variable: Ln_HS

From Table III.5 above, the equation can be described as follows:

$$LN_HS = 3.578 - 0.166 LN_Inflation + 0.496 LN_Kurs + 0.492 LN_EVO + 0.166 LN_CH$$

Where

LN_HS = Predicted Y Value (Stock Price)

LN_Kurs = Exchange Rate Swap

a = Constant

LN_EVO = Earning Volatility

b₁,...b₅ = Variable coefficient

LN_Inflation = Inflation Rate

Table III.6

Excluded Variables

Excluded Variables

Model	Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
					Tolerance	VIF	Minimum Tolerance
1 Ln_Tribe	.b000	.	.000

a. Dependent Variable: Ln_HS

b. Predictors in the Model (Constant), Ln_CH, Ln_Inflation, Ln_EVO, Ln_Kurs

The table of regression results filled with variables that are automatically deleted is the table *excluded variables* because it does not have a significant effect on the relationship of the regression equation. The table displays the beta, t, significance level, partial correlation, and tolerance values to indicate that the variable should be removed from the regression equation. The interest rate variable in this table has no impact on the dependent variable. So the Interest Rate variable in this table has a tolerance of 0.0.

4.2) Coefficient of Determination

With the help of SPSS 26, we can know that the magnitude of Adjusted R Square value is 0.078, which means 7.8% of the variables of Stock Price are influenced by Inflation, Exchange Rates, Interest Rates, Earning Volatility and Cash Holding, while 92.2% is influenced by other factors.

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4.3) Test F

Table III.7

Test F

ANOVAa

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	29,914	4	7,479	4.489	.002b
	Residual	266.552	160	1.666		
	Total	296,466	164			

a. Dependent Variable: Ln_HS

b. Predictors: (Constant), Ln_CH, Ln_Inflation, Ln_EVO, Ln_Kurs

The value of the table F for df1 & df2 (160) is 2.66. From the F table value, it can be compared with the calculated F (4.489) > 2.66 F table and a significant value of 0.002 < 0.005 then Ha is accepted. This proves that the four independent variables significantly affect the stock price of manufacturing companies.

4.4) Test T

Table III.8

Test T

Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3,578	36,913		.097	.923
	Ln_Inflation	-.166	.943	-.014	-.176	.861
	Ln_Kurs	.496	3.987	.010	-.124	.901
	Ln_EVO	.492	.139	.268	3.538	.001
	Ln_CH	.166	.093	.135	1,781	.077

a. Dependent Variable: Ln_HS

The value of T table at a probability of 0.05 using a 2-way significance test and a df of 160 is 1.97490 resulting in several hypotheses as follows:

1. The value of -tcount -0.176 > -ttable -1.97490 and a significant value of 0.861 > 0.05 means that H0 is accepted. This shows that inflation is no take effect significant on price Shares of manufacturing companies for the period 2017 – 2019.
2. The value of tcount 0.124 < -ttable 1.97490 and a significant value of 0.861 > 0.05 means that H0 is accepted. This shows that the exchange rate no take effect significant to price Share manufacturing company for the period 2017 - 2019.
3. The interest rate variable is not explained in the T test results, because the interest rate variable is included in the exclusion variable, and the variable is not automatically included in the regression because it does not meet the inclusion requirements in the model regression equation.
4. The value of -tcount 3.538 > ttable -1.97490 and a significant value of 0.077 > 0.055 indicates that Earning Volatility affects the stock price of manufacturing companies significantly in the 2017 - 2019 period.
5. The value of tcount 1.781 < ttable -1.97490 and a significant value of 0.077 > 0.055 means that H0 is accepted. This shows that Cash Holding does not significantly affect the stock price of manufacturing companies in the 2017 - 2019 period.

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IV. CONCLUSIONS AND SUGGESTIONS

A. Conclusion

The research results that can be concluded are:

1. Inflation, currency rates, interest rates, earnings volatility, and cash holdings all impact stock prices by 7.8%.
2. The F test shows that inflation, currency rates, interest rates, earnings volatility, and cash holdings substantially influence stock prices.
3. The fact that $-t_{count} -0.176 > -t_{table} -1.97490$ and $0.861 > 0.05$ indicates that inflation has no impact on stock prices.
4. If $t_{count} 0.124 - t_{table} 1.97490$ and $0.901 > 0.05$, the exchange rate has no impact on stock prices.
5. Interest rates partially have no impact on stock values
6. As the t_{count} number is $3.538 > t_{table} -1.97490$, earning volatility has an impact on stock prices.
7. If $t_{count} 1.781 > t_{table} -1.97490$, and $0.077 > 0.05$, then cash holding has no impact on stock prices.

B. Suggestion

Suggestions that we can convey are:

1. Researchers who want to do similar research should replace variables with variables that already have an effect on stock prices.
2. If investors want to invest in manufacturing companies, fundamental analysis is the most recommended thing for investors in choosing companies with stocks that have good returns.

Manufacturing companies should be more careful in maintaining stock prices. When a manufacturing company is negligent in controlling its debt or cash, the stock price will be affected and even suffer losses.

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