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Analysis of the Influence of Real Interest Rate, Exchange Rate and Economic Growth on Inflation in Indonesia: Error Correction Model Approach

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Abstract

This study aims to analyze and determine the effect of real interest rates, exchange rates and economic growth on inflation in Indonesia. This type of research is descriptive quantitative. The data used in this study is secondary data from 2005 to 2019 in Indonesia. The independent variables in this study are Real Interest Rates, Exchange Rates and Economic Growth, while the dependent variable is inflation. The data analysis method used is the error correction model (ECM). The results showed that based on the results of short-term regression and long-term regression of real interest rates, negative and significant results were obtained on the inflation variable, the exchange rate had a positive and significant effect on the inflation variable and economic growth had a positive and significant effect on the inflation variable.

Keywords: *Inflation, Real Interest Rate, Exchange Rate, Economic Growth.*

Introduction

One of incident the main monetary and almost found all countries are inflation. Inflation originated from language Latin "infance" which means increase. Inflation is something state economy in a country where trend increase price goods and services by general in long time (continuous) due to because no balance current goods and money. Ascension price in nature temporary no including in inflation, for example increase prices approaching days big religious. In general inflation occur when the amount of money circulating in the community more many than needed.

Factor Inflation in Indonesia is also caused by factors abroad remember Indonesia is a country with economy open in the middle world economy. With state like that so implication is existence turmoil the overseas economy will influence economy domestically. For Indonesia, try build return economy level high inflation _ must avoided so that the momentum of healthy and enthusiastic development in the business world could permanent preserved.

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In 1998, Indonesia experienced crisis economy that results in height level inflation that is reached 77.6 %, enhancement rate inflation This is caused by the gap Among advantages Request aggregate in an economy that doesn't capable balanced offer aggregate in economy that. Indonesia has been experience hyper-inflation at the end the old order, namely in 1966. So that by psychological inflation is crisis for Indonesian society (AM Soesilo, 2002:1).

One of policy control inflation that is monetary policy in general carried out by the authority monetary influence variable monetary, i.e ethnic group real interest, value exchange and economic growth. Policy monetary must carried out in developing countries in general more hard and heavy if compared with developed countries. Factor the cause is Duty for create enough money offer so that amount could increasing and always in tune with development that requires discipline strong among authority monetary and government. Lack of capital and limited income government cause strong urge to government for borrow by excessive to the Central Bank. If this is done so rate increase money supply will Becomes morefast, impact occur inflation.

With fluctuation level ethnic group flowers that happen will have important implications to real sector and sector monetary in economy. High interest rate will Becomes problem big for investment in the real sector. But level high interest will stimulate more many savings society. For that's level fluctuation flower must always controlled to stay push activity investment and production as well as no reduce desire Public for saving and not resulting in capital run to abroad. Ethnic group flower Becomes reject measuring for activity economy an influential country to rotation current finance banking, inflation, investment and movement currency in a country. In raise or lower ethnic group flower must take sides and prioritize well-being people domestically (Kurniasari, 2011).

Exchange rate currency means as price relatively from something currency against other currencies. Exchange rate classified Becomes two that is score exchange real and value exchange nominal. The real exchange rate is price relatively from items in between two countries where our could sell buy it goods from country to country other. Whereas score nominal exchange is price relatively from country currency. (Larasati and Amri, 2017).

In activity real economy growth economy means production fiscal development goods and services prevailing in a country, the level of growth economy measure increase income real national, namely income national (Sadono Sukirno, 2006). Destination from calculation income national this is for get description about level economy that has achieved. Besides it is also used for make prediction about growth the country's economy in the future come. Variable reject measuring progress a country is economic growth. If the economy a stable country so could said the country up even so otherwise.

Literature Review

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Theory Inflation

Inflation is state rise prices ongoing goods and services by continously in period quite a long time, Definition this classified Becomes three necessary criteria observed for seen has happening inflation that is increase price, character common and happening Keep going continuously in range time certain. Rhythm with increase prices that, then score money also sharp comparable with increase prices that. Rise prices not solely because influence technology, properties goods nor because influence when approaching day big religious, but because existence influence inflation in general in progress in period quite a long time.

Definition about inflation since beginning 1970s experts economy define inflation as rise level price general by Keep going continuously. As for the definition from theory inflation according to a number of expert economy is as following: According to Samuelson (1995) defines inflation as something state where happening increase level price general. Meaning from definition the mean state weakening power buy the community that follows with the more decline the real (intrinsic) value of a country's currency. According to Ackley (1993) inflation is something state the economy experiencing increase price by Keep going continuously from goods and services by general. According to Marcus (2001), inflation is something score where level price goods and services by general experience increase, I mean is inflation is one incident monetary showing something trend will increase when price and goods Keep going increase in period quite a long time. Ascension price general only occur very time just according to definition this no could said as inflation.

Theory Interest rate

According to Sukirno (1994), namely payment on capital borrowed by other parties is called flowers. Declared interest as percentage of capital is called level ethnic group flowers. Which means level flower is percentage payment of capital borrowed by another party.

Tribal level flower that is price from use of loanable funds. Loanable funds are funds that are available for lent or often called as an investment fund. Tribal level flower is one factor in decide is somebody could To do investation or saving (Boediono, 1994).

Ethnic group flower could distinguished Becomes two that is ethnic group nominal interest and rates flower real. Interest rate nominal i.e. summation from elements level flower, that is level "pure" interest (pure interest rate), premium risk (risk premium), cost transactions (transaction costs) and premiums for desired inflation. Interest rate this is what it should be paid debtor to creditor on the side return loan basically at the time already due. Whereas ethnic group flower real is level nominal interest minus rate inflation that occurs during the same period (Boediono, 1994).

Exchange Rate Theory

Trading international will push happening exchange two or more different currencies. Transaction this will cause demand and supply to something certain currencies, the following this a number of definition about score exchange. According to Nopirin (2012) value swap are: "Price in " exchange two type different currency, will there is comparison score or price Among second specific currency, comparison score This is what is called the exchange rate. According to Sadono Sukirno (2011) value swap are: "Exchange rate" currency (exchange rate) or often called exchange rate is price currency against other currencies. Exchange rate is one between most important price in economy open remember influence big for balance sheet transaction walk nor variables macro the rest of the economy". According to Mahyus Ekananda (2014) value swap are: "Currence" means price something relative currency to other country's currency. Exchange rate play role important in taking decision shopping, because exchange rate allow our translate prices from various countries to in one the same language ". Based on the definitions above, arrive at understanding writer that score swap is price something currency against other currencies, how much domestic currency valued by foreign currency, value swap is very important price in economy.

Economic Growth Theory

Growth economy is process rise *output* per capita in period long time. The pressure is on three aspects, namely process, *output* per capita and term long. Growth economy is a process or try, no something description economy at the moment certain. Could our see aspect dynamic from something economy, that is how something economy develop or changed from time to time. The pressure there is on change or development that alone.

According to Prof. Simon Kuznets, growth economy isincrease capacity period long from the country concerned for provide various goods economy to its inhabitants. Ascension capacity the possible by existence progress or adjustments technological, institutional and ideological to various state which there is.

Development economy have meaning which more-large and cover change on arrangement economy Public by thorough. Economic development basically defined as something process which cause rise income real per capita population a country in period time length accompanied by improvement system institutional.

And the last one repair system institutional in everything field (for example economic, political, legal, social, and cultural). Regulation this can reviewed from two aspect namely: aspect repair in the field organization (institution) and repair in the field regulation good legal formal nor informal. That means development economy is something effort action active must carried out by a government in skeleton increase income per capita. So, really needed role as well as society, government, and all contained elements in something country for participate active in development process.

Method

Technique Collection Data

Type of data used in study this is secondary data (monthly data) in form number about inflation, ethnic group real interest, value exchange and growth taken economy in period time (time series) with period 2005-2019 time. Sources of data obtain from the official website of Bank Indonesia and the Central Statistics Agency (BPS).

Data Analysis Method

In study this use method analysis *error correction model* (ECM) because have advantages, namely:

1. When regression performed on coherent data no time stationary so worried will produce blunt linear regression *(spurious regression*). Awkward linear regression be marked with high R^2 value and low Durbin Watson value (Insukindro, 1993). Consequences caused by blunt linear regression is coefficient regression estimator no efficient, forecasting based on regression the will misses and common standard test for coefficient related Becomes invalid. Before To do regression our must make sure that the data is coherent time to come regressed already stationary, because is condition for perform t test and f test (Gujarati, 2003).
2. Stationarity test this conducted for see does the *time series* data contain unit root (*unit root*). For that, the usual method used are the *Dickey-Fuller (DF)* test and the *Augmented Dickey-Fuller (ADF*) test.
3. According to Granger (Gujarati, 2003), cointegration test can considered as test initial (*pretest)* for avoid regression spurious *regression*. Two cointegrated variable have connection period long or equilibrium. Because basically testing cointegration conducted for see is residue from results regression variable variable study character stationary or no so testing cointegration in study this will conducted with test stationary residue with the ADF test. If the *error is* stationary, then there is cointegration in models.
4. In one equality single could explain connection period long and long term Short

ECM Models

INF= f(IRR, GDP, LKURS)

$INF = {}_0 + {}_1 IRR + {}_2 GDP + {}_3 LKURS +$

In equality Period In short, ECM becomes:

$INF = {}_0 + {}_1 IRR + {}_2 GDP + {}_3 LKURS + ECT(-1) + e$

Where:

INF= Inflation rate, measured with growth CPI (%)

IRR= tribe real interest, measured with ethnic group BI nominal interest reduced inflation (%)

GDP= output growth, measured with GDP growth (%)

EXCHANGE= Exchange Rate, measured with natural logarithm of comparison Rupiah against USD ECT= *Error Correction Term*

e = Error term

$_0, _1 \ldots _4$ = Coefficient regression

Assumption Test Classic and Stability Model

Test Multicollinearity

According to Ghozali (2016) on testing multicollinearity aim for knowing what is regression model found existence correlation between variable independent or variable free. Effect from multicollinearity this is cause height variable on sample. Thing the means standard error big, as a result when coefficient tested, t-count will worth small from t-table. Thing this show no existence connection linear among variable independent which influenced with variable dependent.

Test Heteroscedasticity

Test this aim for to do test is on a model regression occur inconveniences variant from residual in one observation to observation other. If variant different, called heteroscedasticity. Wrong one method for knowing there is whether or not heteroscedasticity on something model regression linear double, that is with see scatterplot graph or from score prediction variable bound i.e. SRESID with residual error that is ZPRED. If no there is pattern certain and no spread on nor under number zero on axis y, so could concluded it didn't happen heteroscedasticity. For model study which good is which no.

Autocorrelation Test

Autocorrelation Test aim for test does a linear regression model exist correlation among error nuisance in period t-1 (previous). If it happens correlation, then named there is an autocorrelation problem (Ghozali, 2011)

Model Stability Test with Cusum Test

Cumulative sum of recursive model (CUSUM) is used for detect stability variable good in period long nor period short.

Basic Statistical Test

1. T-test
   Known T test with a partial test, namely for test how the influence of each variable free by individually to variable bound. Test this could conducted with compare t count with t table or with see column significance for each t count.
2. F-test
   F test can conducted with compare F count with Table F: F Table in Excel, if F count > from F table, (Ho is rejected, Ha is accepted) then the model is significant or can seen in column significance. On the contrary if F count < F table, then the model is not significant, thing this is also marked score column significance (5%) will more big from alpha.
3. Coefficient Determinant (R^2)
   Coefficient determinant (R^2) is constant indicating _ big Y variation every occur change one unit X (Gujarati, 2009). In implementation everyday, can interpreted as big influence variable X to declared variable Y in percent. Multicollinearity with method see VIF value of each independent variable, if VIF value < 10, then could concluded free data from symptom multicollinearity.

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Result and Discussion

In study this is the data used includes variable data independent that is Real Interest Rate (IRR), Product Domestic Gross (GDP) and Exchange Rate (Exchange). Whereas for variable dependent is inflation data. In part this is explanation methods and tools analysis used in data processing, with ECM (*Error Correction Model)* method and with helped tool analysis namely Eviews10. From method the then conducted a number of Step testing on the data that is including the data stationarity test, and the result test estimation. Used this ECM method for analyze existence connection variable in period short and long term long.

Unit Root Test (Unit Root Test)

Stationarity is one precondition important in econometric models for coherent data time (*time series*). Stationary data is the data that shows *mean*, *variance* and *autovariance* (on variation *lag*) fixed same time when just that data formed or used, it means with stationary data the *time series* model can said more stable. If the data used in the model something is not stationary, then the data considered return validity and stability, because results regression originating from data that is not stationary will cause *spurious regression*. *Spurious regression* is regression that has a high R2, however no there is meaningful relationship from both.

One formal concept used for knowing the stationarity of the data is through *a* unit root test. Test this is the popular test, developed by David Dickey and Wayne Fuller with designation *Augmented Dickey-Fuller (ADF) Test*. If a *time series* data is not stationary on the order zero, I(0), then the stationarity of the data can searching for via next order so that obtained level stationarity on the nth order (*first difference* or I(1), or *second difference* or I(2), and so on.

All data used in regression unit root test was carried out with based on value limit ADF critical. Unit root test results with compare t - count result with score McKinnon 's critical is as following:

Table 1. Test Results Unit Root *(Unit Root Test)*

Variable	Stationarity Level					
	Level			***First Difference***		
	t-Statistic	**Prob.***	**Information**	**t-Statistic**	**Prob.***	**Information**
INF	-2.790889	0.0617	Not Stationary	-8.568608	0.0000	Stationary
IRR	-4.068843	0.0014	Stationary	-6.865587	0.0000	Stationary
Exchange Rate	-0.788551	0.8196	Not Stationary	-12,25915	0.0000	Stationary
GDP	-1.038125	0.7390	Not Stationary	-4.607708	0.0002	Stationary

At level there is a number of variable that is not stationary so that need seen variable it is at the level *first difference*. Result seen that whole variable could stationary at level *first difference* with various condition.

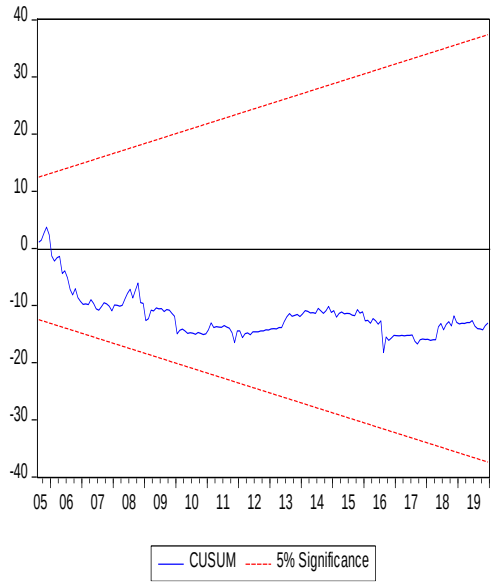

Figure 1. Model Stability Test with Cusum Test

ECM model stability test in study this using the CUSUM test with level 95% confidence. CUSUM test results for the ECM model in study this as in image. The stability of the model is determined from color CUSUM *line* position blue is at between two the colored 5% *significance line* red. For ECM models, the CUSUM *line* is between *significance line* that proves that the ECM model is stable.

Classic Assumption Test

The classical assumption test is a statistical test used to determine the relation between variables, including: multicollinearity test, heteroscedasticity test, autocorrelation test, normality test, and linearity test.

Table 2. Multicollinearity Test

Variance Inflation Factors	
Date: 02/11/22 Time: 18:35	
Sample: 2005M01 2019M12	
Included observations: 177	

	Coefficient	Uncentered	Centered
Variable	Variance	VIF	VIF
C	0.000320	1.009912	NA
D(IRR)	0.000291	1.005035	1.004949
D(GDP)	0.026050	1.025997	1.023244
D(LKURS)	0.436453	1.040994	1.033223
ECT(-1)	0.003947	1.041676	1.041674

Based on table above, multicollinearity test could said no occur multicollinearity, because VIF value < 10. IRR (X1) is 1.004; GDP (X2) of 1.023; and EXCHANGE (X3) of 1.033; So that could concluded data on research this no occur multicollinearity because less VIF value from 10 to could declared that the model is not experience symptom Multicollinearity .

Heterocedasticity Test

Test heteroscedasticity in study this conducted with the Breusch-Pagan- Godfrey test, there or whether or not heteroscedasticity could is known from score probability Obs *R-square later will compared with level significance. If value probability its significance above 0.05 then could concluded no occur heteroscedasticity.

Table 3. Heteroscedasticity Test

Heteroskedasticity Test: ARCH			
F-statistics	3.831224	Prob. F(1.175)	0.0519
Obs *R-squared	3.791992	Prob. Chi -Square(1)	0.0515

Based on table above, multicollinearity test showing no there is *spikes* and all statistical value with score probability more big from degrees significant 5% (> 0.05). ARCH heteroscedasticity test on the model obtained results Obs *squared of 3.791992 with score chi-square probability of 0.0515 or more big from score degrees significant 5%. Based on results the so is known that guess no there is heteroscedasticity in this model could accepted.

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Autocorrelation Test

Autocorrelation show existence correlation among member series observation (Basuki, 2015 in Agus Tri Basuki, 2017), detection autocorrelation conducted with Breusch-Godfrey test technique Serial Correlation LM Test as following:

Table 4. Autocorrelation Test

Breusch-Godfrey Serial Correlation LM Test:				
F-statistics	0.951666	Prob. F(2,171)		0.3881
Obs *R-squared	1.959437	Prob. Chi -Square(2)		0.3754

From result calculation for autocorrelation test obtained the probabilities are 0.3881 and 0.2410 i.e. of alpha 0.05, then Thing this show that in this ECM model no there is autocorrelation.

Statistic Analysis

Long Term Analysis

Regression analysis is a reliable method of identifying which variables have impact on a topic of interest. The process of performing a regression allows you to confidently determine which factors matter most, which factors can be ignored, and how these factors influence each other.

Table 5. Regression Results Long Term

Dependent Variable: D(INF)				
Method: Least Squares				
Date: 02/11/22 Time: 16:44				
Sample (adjusted): 2005M02 2019M12				
Included observations: 179 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-20.24796	6.898099	-2.935295	0.0038
IRR	-0.200160	0.039854	-5.022288	0.0000
GDP	0.635952	0.206915	3.073493	0.0025
LCURS	1.819937	0.647522	2.810616	0.0055
R-squared	0.163487	Mean dependent var		-0.025698
Adjusted R-squared	0.149147	SD dependent var		1.116944
SE of regression	1.030287	Akaike info criterion		2.919646
Sum squared resid	185.7611	Schwarz criterion		2.990872

Likelihood logs	-257.3083	Hannan-Quinn criter.	2.948527
F-statistics	11.40063	Durbin-Watson stat	1.584682
Prob(F-statistic)	0.00001		

Based on table above, then equality from the cointegration test obtained are: INF = -20.24796 C -0.200160 IRR + 0.635952 PDB + 1.819937 Kurs
Table above explain that of 3 (three) independent variables (X 1, X 2 and X3) there are all independent variables take effect significant to the dependent variable (Y), p this could seen from score more probability small from score critical 5%. The model could considered valid because score *R2* = 0.163487 which explains about diversity from Variables, while the prob(F-statistic) test with score 0.000001, shows that the three variables X1, X2 and X3 simultaneously together affect variable Y. With thereby could obtained conclusion that IRR, GDP and Exchange Rate by together could affect INF in the long term long.

Individual Test (T test)
If t count > t table, then variable free the take effect to variable bound by individual. With use degrees 5% confidence then if score probability < 0.05 means variable the significant at the level of significant 5%.

Table 6. T-test Statistics Long Term

Variable	t-Statistic	Prob.	Information
IRR	-5.022288	0.0000	Significant
GDP	3.073493	0.0025	Significant
Currency	2.810616	0.0055	Significant

From result test data for period long with *EViews* earned t - value of each variable and its probability as following:

1. T test on variable parameter Real Interest Rate (1) that Variable Real Interest Rates have an effect by negative to variable Inflation.
2. t test on variable parameter Product Domestic Gross (2) that Variable Product Domestic Gross take effect by significant to variable Inflation.
3. t test on variable parameter Exchange rate (3) that Variable Exchange rate take effect by significant to variable Inflation.

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Short-Term Analysis

A regression is a statistical technique that relates a dependent variable to one or more independent (explanatory) variables. A regression model is able to show whether changes observed in the dependent variable are associated with changes in one or more of the explanatory variables.

Table 7. Regression Results Period Short

Dependent Variable: D(INF)				
Method: Least Squares				
Date: 02/11/22 Time: 17:20				
Sample (adjusted): 2005M04 2019M12				
Included observations: 177 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.014585	0.017897	-0.814956	0.4162
D(IRR)	-1.020095	0.017048	-59.83542	0.0000
D(GDP)	0.549030	0.161399	3.401700	0.0008
D(LKURS)	1.862746	0.660646	2.819583	0.0054
ECT(-1)	0.602478	0.062827	9.589540	0.0000
R-squared	0.956504	Mean dependent var		-0.023446
Adjusted R-squared	0.955492	SD dependent var		1.123053
SE of regression	0.236928	Akaike info criterion		-0.014275
Sum squared resid	9.655237	Schwarz criterion		0.075447
Likelihood logs	6.263342	Hannan-Quinn criter .		0.022113
F-statistics	945.5963	Durbin-Watson stat		2.119704
Prob(F-statistic)	0.000000			

Estimated results ECM equation for the period 2005-2019 is as following: DInf = -0.014585 - 1.020095 IRR + 0.549030 GDP + 1.862746 Exchange Rate + 0.602478 ECT

For knowing is results estimation could trusted so conducted testing more carry on that is in the form of statistical test. The test meant for knowing is interpretations against parameters already mean by theoretical and real by statistics. So conducted statistical testing patient (T test).

Private Statistics Test (T Test)

A t test is a statistical test that is used to compare the means of two groups. It is often used in hypothesis testing to determine whether a process or treatment actually has an effect on the population of interest, or whether two groups are different from one another.

Table 8. T-test Statistics Period Short

Variable	t-Statistic	Prob.	Information
DIRR	-59.83542	0.0000	Significant
GDP	3.401700	0.0008	Significant
DKurs	2.819583	0.0054	Significant
ECT(-1)	9.589540	0.0000	Significant

T test against Coefficient of dIRR

From result estimation for score change the percentage of IRR (dIRR) obtained that t- statistic value as big as -59.83542 with df of 164 at the level of confidence 1% = 2,349, 5% = 1,654 and 10% = 1,286. Because the value of t- statistics more small from t- table value, then Thing this show that H1 is accepted with the acceptance of H1 means change the percentage of IRR (dIRR) has significant influence by stats on level 1%, 5%, and 10% confidence in change percentage inflation (dInf).

T test of Parameter of dPDB

From result estimation for score change in GDP (dPDB) is obtained that score tstatistics as big as 3.401700 with df of 164 at the level of confidence 1% = 2,349, 5% = 1,654 and 10% = 1,286. Because the value of t- statistics more big from t- table value, then Thing this show that H2 is accepted With the acceptance of H2 means change percentage of GDP (dPDB) has significant influence by stats on level 1%, 5%, and 10% confidence in change percentage inflation (dInf).

T test of Parameter of dCurrency

From result estimation for score change exchange rate (dKurs) is obtained that score tstatistics as big as 2.819583 with df of 164 at the level of confidence 1% = 2,349, 5% = 1,654 and 10% = 1,286. Because the value of t- statistics more small from t- table value, then Thing this show that H3 is accepted With the acceptance of H3 means change percentage exchange rate (dKurs) has significant influence by stats on level 1%, 5%, and 10% confidence in change percentage inflation (dInf).

T test against Error Correction Term (ECT)

From result estimation for score *Error Correction Term* (ECT) is obtained that t- statistic value as big as 9.589540 with df of 164 at the level of confidence 1% = 2,349, 5% = 1,654 and 10% = 1,286. Because the value of t- statistics more big from t- table value, then Thing this show that *The Error Correction Term* (ECT) has significant influence by stats on level 1%, 5%, and 10% confidence in change percentage inflation (dInf). Coefficient value ECT have meaning that difference Among score actual inflation with score the balance as big as 0.602478 will adjusted in period next.

TESTING synchronously (TEST F)

F- table value with degrees freedom (2.66). From result regression is known that F - count is 945.596. With thereby F - count more big from score F table, meaning variables IRR (dIRR), GDP (dPDB) and Exchange Rate (dKurs), respectively together take effect significant against Inf (dInf).

F- statistic test this conducted for knowing is variable free by together take effect to variable no free. Test this conducted with compare F - count with F- table value in degrees freedom (k-1, nk) and rate significance (α) 5%. If the value of F- count more big from F- table then Ho is rejected and Ha is accepted. It means variable independent by together take effect significant to variable dependent and if F- calculate more small from F- table then Ho is accepted and Ha is rejected. It means variable independent by together no take effect significant to variable dependent.

F- table value with degrees freedom (2.66) and = 5% is 2.66. From result regression is known that F-count is as big as 11.40063. With Thus F- calculate more big from F- table value, meaning by together variable independent IRR (dIRR), GDP (dPDB) and Exchange Rate (dKurs), have an effect significant to variable dependent Inf (dInf) in period long.

F- table value with degrees freedom (2.66) and = 5% is 2.66. From result regression is known that F-count is as big as 945.5963. With Thus F- calculate more big from F- table value, meaning by together variable independent of IRR (dIRR), GDP (dPDB) and the exchange rate (dKurs), have an effect significant to variable dependent Inf (dInf) for period short.

Determination Coefficient Value (R^2)

R^2 value (coefficient determination) is done for see how much big variable independent take effect to variable dependent. R^2 value ranges between 0 – 1. The value of R^2 is getting close to 0 then influence all variable independent to variable dependent the more small, and vice versa the value of R^2 is getting close to 1 then influence all variable all variable independent to variable dependent the more big.

From result term model regression long is known that the value of R^2 is 0.163487, which means variation variables IRR (dIRR), GDP (dPDB) and the exchange rate (dKurs) affect change the percentage of INF (dINF) is 16.3487% while the rest (83.6522%) is explained by other variables that do not analyzed in the regression model this.

From result term model regression short is known that the value of R^2 is 0.956504, which means variation variable IRR (dIRR), GDP (dPDB) and Exchange Rate (dKurs) influence change the percentage of Inf (dINF) is 95.6504% while the rest (4.3496%) is explained by other variables that do not analyzed in the regression model this.

Conclusion

Based on results analysis and discussion which has outlined before, can drawn conclusion from whole results study that is: Study this meant for study influence Real Interest Rates, Exchange Rates And Economic Growth on inflation in Indonesia in the period time 2005 to 2019 with using ECM *(Error Correction Model).* Based on results from research and results analysis that has

been described in chapters before, then could drawn conclusion as following: 1) Ethnic group flower Rill (IRR) effect negative and significant on the Inflation Rate in Indonesia and the findings this in accordance with theory if Ethnic group flower increase then the inflation rate in Indonesia will decreased. In research that has been conducted BI interest rate has connection Negative with level Inflation; 2) Exchange Rate (Exchange Rate) has an effect positive and significant to level inflation in Indonesia and findings this in accordance with theory that shows that if level Rupiah exchange rate depreciates to USD, then inflation that occurs getting up. In research that has been conducted level Exchange rate have connection positive and significant with Inflation; 3) Economic growth is influential positive and significant to level inflation in Indonesia. That thing in accordance with theory that shows that if Economic growth rises then inflation down and vice versa; 4) For test (test F and R^2) shows that model is enough good because by together variable independent yes that Ethnic group flower real, exchange rate (exchange rate) and gross domestic product (GDP) have an effect significant to level inflation in Indonesia. Variation variable independent (IRR, EXCHANGE and GDP) can explain variation dependent that is Inflation in Indonesia; and 5) Coefficient sign correct Errors that are negative show existence imbalance in period short will customized in every year. With Thus, the specifications of the model used in study this is correct and capable explain connection balance period short nor period long.

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