

Inflation Influence on Household Consumption in South Sumatra

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Abstract --- This study discusses the effects of inflation on household consumption in 17 districts / cities in South Sumatra province in a vulnerable period of 2016-2018. Secondary data were obtained from published data and the Bank of South Sumatra province of Indonesia. Analysis of data using panel data regression with the help of an application program E-views 8.0 regression method selected Random Effect Model. The results of this study indicate that the variable inflation and a significant negative effect on household consumption in South Sumatra. Determinant coefficient value indicates that the proportion of variable inflation variables influence household consumption amounted to 26.38 percent.

Keywords: household consumption, inflation, E-views 8.0

I. INTRODUCTION

Humans from birth cannot be separated from doing consumption. Consumption spending is one of the activities of goods and services to meet the needs of life. Expenditures include durable goods such as vehicles, household appliances, durable goods such as food, clothing. While services such as haircuts, education and others. [7] Household consumption is one thing that is very important to meet their needs so it is very interesting to be discussed concerning household consumption, including in South Sumatra. The following data on household consumption in South Sumatra

TABLE I. GRDP at CURRENT MARKET PRICES in SOUTH SUMATRA PROVINCE EXPENDITURE 2014-2018 (Billion Rupiah)

Expenditure components	2014	2015	2016	2017	2018
Household consumption	208,208.39	222,487.66	240,977.34	257,277.12	277,710.06
consumption LNPR	4 518.79	4 886.98	5 311.19	5 688.64	6 358.15
Government consumption	24 444.77	25 889.70	26 313.94	29 712.58	31 821.01
GFCF	125,397.63	123,866.82	137,226.04	147,794.04	155,794.55
Inventory changes	1 838.67	874.39	435.80	-145.91	-12

					39.87
Overseas Export	39 695.33	37 001.61	30 755.68	61 028.07	69 070.81
Foreign imports	48 729.14	59 610.74	67 509.52	69 564.90	78 637.79
Import Interisland	11 635.62	25 266.97	17 471.92	10 008.08	16 863.11
total GDP	134,775.50	117,585.22	137,190.63	178,025.67	181,627.28

*Source: (Central Bureau of Statistics South Sumatera, 2019)

Based on the above data, the economy in South Sumatra continues to increase significantly each year. This is evident from the increase in the GDP from 2014 to 2018. The distribution of the GDP shows that the role of household consumption has on average over 60 percent. Household consumption also continued to increase in 2017 despite declining growth of 3.01 percent from the previous year.

Household consumption is influenced by several factors one of which is the price level. The price level is considered the real consumption is a function of real income. Therefore, when nominal incomes rise and the price level is also increased by the same proportion then it will not change the real consumption society [15], The price level influenced by inflation when the economy is experiencing changes in inflation or deflation, the price level will also experience changes in prices. Here is the development of inflation in South Sumatra.

TABLE II. INFALTION and HOUSEHOLD CONSUMPTION in SOUTH SUMATRA

Year	Inflation (% yoy)	growth	RT Consumption (Billion USD)	growth
2014	8:48	-	208208.4	-
2015	3:10	-63.4	222487.7	6.9
2016	3:58	15.5	240977.3	8.3
2017	2.96	-17.3	257277.1	6.8
2018	2.74	-7.4	277771.1	8.0

^bSource: Bank Indonesia Regional South Sumatra (2014-2018)

Based on the above data, the consumption has increased every year despite the growth in household consumption has fluctuated. The decline in inflation in 2016 to 2017 led to growth in household consumption has decreased. In contrast in 2017 to 2018, the decline in inflation led to growth in household consumption in the year has risen by eight percent.

II. LITERATURE REVIEW

A. Inflation

Inflation according to the Central Bureau of Statistics is the trend of rising prices of goods and services in general which continues over time. Rising prices of goods and services led to the decline in the value of money which could mean that inflation is also a decline in value of money against the value of goods and services in general.

Inflation is the tendency of prices to rise in general and continuously. The increase occurred not only on one or two of goods and services alone, but extends to the price of other goods and services. This price increase will tend to occur sharply and continues in a relatively long period of time. Along with the price increase, the value of the currency also fell sharply as the price increases that occurred.[16]

Inflation may arise because of three things: the pressure on the supply side (cost push), the pressure on the demand side (demand pull), and in terms of inflation expectations. Factors occurrence of cost push inflation can be caused by the depreciation of the (weakening) of exchange rates, the impact of inflation abroad, particularly in the countries trading partners, increased commodity prices are regulated by the government (administered), as well as the disruption to arrive -Arrived on the supply side (negative supply shocks) as a result of natural disasters that occurred in an area and / or disturbance in the distribution of goods. Factor causing demand pull inflation occurs is high demand for goods and services compared with the capacity availability (supply). In the macroeconomic condition was described by real output exceeds potential output or total demand (aggregate demand) is greater than the capacity of the economy that ultimately led to the output gap. Gap is what ultimately lead to price increases. This is in accordance with the laws of economics, when demand exceeds supply, prices will rise [16].

B. Consumption

In economics, consumption is the use of goods and services to satisfy human needs. Consumption aims to spend power an object, either in the form of goods and services to meet the needs and satisfaction directly [14].

Consumption is the expenditure of goods and services by households. Such items may include durable goods such as vehicles and not durable goods such as food. While services includes intangible goods such as haircuts, health care, education and other [7].

Household consumption expenditure is expenditure made by households to purchase goods and services to the needs of everyday life in a given period

- consumption function

The consumption function shows the relationship between the level of consumption expenditure by income level. The consumption function is expressed as follows:

$$C = a + bY$$

Where C is the amount of household consumption expenditure, a is the amount of consumption that does not depend on the amount of income or consumption if there is no income, b is the desire of marginal communities to consumption, Y is disposable income (income that is ready to eat) $a > 0$ and $0 < b < 1$. [9],

According Suparmoko there are several variables that influence consumption expenditure beside income such as taste, socioeconomic factors, wealth, profits and losses, interest rate, and the price level [15],

Household consumption expenditure is also influenced by economic factors, non-economic factors and demographic factors. Economic factors affecting household consumption expenditure is household income, household wealth, interest rates and future forecasts. Non-economic factors that influence household consumption is habitual patterns, ethics and values while the demographic factor is the number and composition of the population [13]

C. Previous Studies

According to (R. Hakim, 2018) about inflation and expenditure of consumption in Indonesia shows that inflation doesn't affect the consumption during the two periods. It can be concluded that inflation cannot be used as a tool for controlling public consumption.

According to [3] on Macroeconomic Determinants of Household Consumption Expenditure in Ghana showed that in the short term household consumption is only affected by changes in the price level, and significant impact on the real exchange rate and real economic growth.

According to [5] on inflation and consumption of Indonesia explained that inflation, disposable income, interest rates and consumption of the previous period a significant effect on household consumption in Indonesia.

According Nelwati [8] on the analysis of the factors that affect consumer spending in Indonesia in 1995 and 2009 explained that the variables national income, interest rates and inflation rates significantly influence private consumption in Indonesia.

According Prasetya [10] on the analysis of the factors that affect consumer spending in North Sumatra explained that the inflation rate does not affect household consumption in North Sumatra significantly.

III. RESEARCH METHODS

This study analyzed the effect of inflation on household consumption in the province of South Sumatra. The data used is the household consumption panel data per district / city in South Sumatra and South Sumatra in 2016-2018 inflation sourced from the Central Statistics Agency (BPS) and Bank Indonesia's South Sumatra. The method used is quantitative research with the following equation:

$$\text{LnCRT} = \beta_0 + \beta_1 \text{INF} + \text{ei} \quad (1)$$

Where CRT is the Household Consumption, β_0 is a constant, β_1 is a variable coefficient, INF is inflation in South Sumatra, and e_i is the Error Term.

This study uses panel data that is required to select the best model by using Chow Test and Hausman Test. So the need to use multiple regression assumptions of classical, normality test, multicollinearity, autocorrelation, and heteroscedasticity. To see the effect of the test statistic F test is required, partial test and test determinant coefficient.

IV. RESULTS AND DISCUSSION

A. Selection of the Best Model

1) Chow test

Chow test is used to determine the best model among the models of common or fixed models. Following the results of the test Chow:

TABLE III. TEST RESULTS CHOW

Effects Test	statistics	df	Prob.
Cross-section F	650.852940	(16,33)	0.0000
Cross-section Chi-square	293.633968	16	0.0000

^cSource: Data Processing Results, Eviews 8.0

Chow test showed prob F value of 0.0000 to 0.0 p-value $< \alpha 0.05$ and Prob chi-square value of 0.0000 to 0.0 p-value $< \alpha 0.05$. A probability value below the value of alpha, then H_0 is rejected, which means the chow test is the best model is the fixed effect model.

2) Hausman test

Hausman test aims to determine whether the fixed effect model or random effect models that have the best model. Following the results of Hausman test:

TABLE IV. RESULTS OF THE HAUSMAN TEST

Test Summary	Chi-Sq. statistics	Chi-Sq. df	Prob.
Cross-section random	0.000000	1	1.0000

^dSource: Data Processing Results, Eviews 8.0

If the probability value < 0.05 then H_0 is rejected or in other words, the model chosen is a fixed effect, and vice versa if the probability value > 0.05 then H_0 is accepted, which means random effect models. Hausman test results showed that the value of Prob. Random cross-section of 1.0000, which means that the probability of > 0.05 and Random Effect accepted models.

3) Test the Lagrange-Multiplier

LM test (*Breusch-Pagan Random Effect*) used to ascertain which model to use, the model of random or common models. The following test results LM:

TABLE V. TEST RESULTS LAGRANGE-MULTIPLIER

Null (no rand Effect)	Cross-section One-sided	Period One-sided	Both
Breusch-Pagan	50.94085 (0.0000)	1.576393 (0.2093)	52.51725 (0.0000)

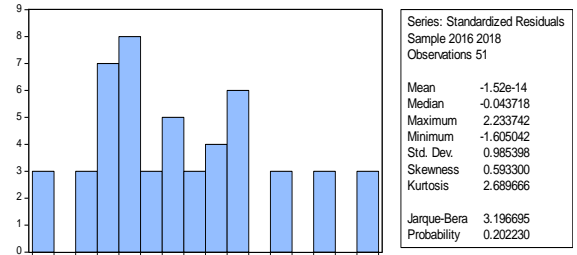
^eSource: Data Processing Results, Eviews 8.0

According to the table above is explained that the value of the Lagrange Multiplier test Breusch-Pagan value worth 50.94085 with a probability of 0.0000 so LM model shows that the model Random Effect is considered the best model for this study.

B. Classic assumption test

1) Normality test

Normality or Jarque - Fallow is used to see whether a disturbance variable in the regression model or residue has a normal distribution or not by comparing the value of the probability. If the probability of < 0.05 then the residual distribution is not normal.



^fSource: Data Processing Results, Eviews 8.0

Fig. 1. Normality Test

Based on the classic assumption test shows that the data used is normal with probability equal to $0.2022 > 0.05$.

2) Multicollinearity test

This test is used to look at the correlation matrix of independent variables. If the coefficient is more than 0.80 then there is multicollinearity.

TABLE VI. MULTICOLLINEARITY TEST

	INF
INF	0.670000

^gSource: Data Processing Results, Eviews 8.0

3) Heteroskedasticity Test

This test is performed by using test glejser. Glejser test conducted by do regression variable independent of the absolute residuals.

TABLE VII. HETEROSKEDASTICITY TEST

Variable	Coefficient	Std. Error	Statistic	Prob
C	0.789201	0.711202	1.109671	0.5726
INF	0.001181	0.228410	0.005170	0.9959

^hSource: Data Processing Results, Eviews 8.0

If its probability value > 0.05 then the model is free from assumptions offense heteroscedascity and vice versa. A probability value of the independent variable is $0.9959 > 0.05$, which means the model is free from assumptions offense heteroscedasticities.

4) Autokoleration test

This test uses durbin-watson test (test dw). Criteria for acceptance or rejection will be made to the value

of dL and dU, which is determined based on the number of independent variables in the regression model (k) and the number of samples (n).

Test Durbin - Watson amounted to 1.044976 while the value is equal to 1.330 dL and dU at 1.3812. Durbin-Watson value less than 1.330 and greater than 1.3812. Then this model is free from autocorrelation.

C. Statistic test

1) Simultaneous Significance Test

F test is used to determine the effect of independent variables (inflation) to the dependent variable (household consumption). The regression results indicate that the probability (F-statistic) is less than the level of alpha $0.000116 < 0.05$. The independent variables significantly affect dependent variable. It means change in the dependent variable (household consumption) can be explained by changes in the independent variable (inflation).

2) Partial test

T test is used to determine the significant influence of independent variable to dependent variable. T test results showed that the value of the variable probability of inflation is greater than 0.0001 or $0.05 < 0.0001$. This means that the variable inflation has a significant effect on household consumption variables.

3) Test Coefficient of Determination

This value can be measured by the coefficient of determination R-square value or Adjusted R-Square. R-Squared value of this research is 0.263815. This means that the proportion of variable inflation on household consumption was 26.38 percent. So that 73.62 percent are influenced by other factors outside the regression model.

D. Results Interpretation

Here are the results of model estimation Random Effect

TABLE VIII. REGRESSION RESULTS USING RANDOM EFFECT

variable	coefficient	Std. Error	t-Statistic	Prob.
C	22153779	5129376.	4.319001	0.0001
INF	-2,242,201.	535081.6	-4.190391	0.0001
Effects Specification				
R-squared	0.263815	Mean dependent var	596504.0	
Adjusted R-squared	0.248791	SD dependent var	1568018.	
SE of regression	1359037.	Sum squared resid	9.05E + 13	
F-statistic	17.55938	Durbin-Watson stat	1.548788	
Prob (F-statistic)	0.000116			

ⁱSource: Data Processing Results, Eviews 8.0

Based on the above table, the panel data regression equation is as follows:

$$\text{LnCRT} = 22153779 - 2242202\text{INF} + \text{ei}$$

The value are 22153779 indicates that if the independent variable inflation is zero then the amount of household consumption is variable inflation 22153779. The regression coefficient is negative. This means that if a variable inflation increases by one percent, the variable household consumption will decrease by Rp. 2,242,202.

E. Discussion

The effect of inflation on household consumption in South Sumatra is statistically significant and negative, which means that if inflation increases in household consumption will decrease. This can be seen in Table 2 in inflation in 2017 to 2018 experienced a decline in inflation but household consumption has increase. The growth in household consumption in 2018 decreased. Differences increase and decrease in household consumption and inflation caused by many factors outside variables such as the tastes of society, people's income, population, and more. So that the effect of inflation on household consumption amounted to 26.38 percent from the influence of other variables more influence in the amount of 73.62 percent. [11] also explained that there is a significant effect on the consumption of the previous period with the level of consumption in Indonesia. The researchers by [6] explain that the disposable income and the economic crisis have significant and positive impact on household spending. While the education variable interest rates on deposits and a significant negative effect on household consumption expenditure.

V. CONCLUSION

Based on the analysis we can conclude that inflation on household consumption in the province of South Sumatra and significant negative effect during 2016-2018.

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