

## Impact of Covid-19 on the Inflation Rate of Central Kalimantan Province

Rizki Hadifa<sup>1</sup>, Alexandra Hukum<sup>2</sup>

<sup>1,2</sup>Universitas Palangka Raya, Indonesia

mr.rizkihadifa@gmail.com, alexandra.hukum@upr.ac.id

### Abstract

*This study aims to see the impact of the COVID-19 pandemic on the inflation rate in Province Central Kalimantan. This research uses descriptive quantitative research. The inflation data for Province Central Kalimantan were taken from BPS (Central Statistics Agency) for 2019 - 2020. Data analysis used paired sample t-test. The results of the data normality test used the Kolmogorov-Smirnov  $p > \alpha = 0.200$ , so the data were normally distributed. For the analysis of these data, the Paired Samples T Test method is available in the SPSS statistical version 25 software. The results of the paired samples t-test analysis show a significant (2-tailed) value of 0.323 with a significant value  $< 0.05$ . Research shows the effect of inflation in Central Kalimantan Province by comparing with the year before the COVID-19 pandemic event is insignificant. This means that the impact of the COVID-19 pandemic on inflation is not influential.*

### Keywords

COVID-19; inflation pandemic psbb; the impact of covid-19.



### I. Introduction

Coronavirus, also known as Covid-19, is a virus that infects the human respiratory system with a very fast rate of transmission. This virus has upended all aspects of human life, both health and the economy. This virus has infiltrated Indonesia since the end of the first quarter of 2020. The initial discovery of the corona virus in Indonesia came from an infected Japanese citizen who visited Indonesia. The corona virus in Central Kalimantan was first detected on March 20, 2020 from the results of the examination of 3 patients. As of December 23, 2020, this virus has infected in Indonesia as many as 685,639 patients, 558,703 patients recovered, 20,408 patients died (Ministry of Health of the Republic of Indonesia, 2020).

Since the incident, the government has taken various countermeasures to reduce the impact of this virus in various sectors. One of the government's policies, namely PSBB (Large-Scale Social Restrictions) has had a great impact on the economy. The BPS (Central Statistics Agency) report on November 5, 2020 stated that Indonesia's economic growth in the third quarter of 2020 was minus 3.49% where previously in the second quarter of 2020 it was minus 5.32% (Central Statistics Agency, 2020).

The world health agency (WHO) has also announced that the corona virus, also called COVID-19, is a global threat worldwide. The outbreak of this virus has an impact especially on the economy of a nation and globally. These unforeseen circumstances automatically revised a scenario that was arranged in predicting an increase in the global economy. (Ningrum, P. et al. 2020)

The coronavirus is the cause of the inflation trend in Indonesia and can also create a deflationary trend. Inflation development in June 2020 was recorded at 0.18%, compared to the previous year at 0.55% (Central Bureau of Statistics, 2020). The decline in the inflation

rate was caused by the weakening purchasing power of the people. This shows that the Government must strive to continue to increase people's purchasing power.

The Covid-19 pandemic caused everyone to behave beyond normal limits as usual. One of the behaviors that can change is deciding the decision to choose a college. The problem that occurs in private universities during covid 19 is the decrease in the number of prospective students who come to campus to get information or register directly to choose the department they want. (Sihombing, E and Nasib, 2020)

The implementation of PSBB in almost all provinces and cities in Indonesia has resulted in a sluggish economy. This situation affects employment in Indonesia because the economic slowdown automatically makes businessmen to take efficiency measures in order to make up for losses. As a result, many workers are laid-off or fired, which ultimately causes people's purchasing power to decline.

The process of changing society's economy can result in two things, namely deflation and inflation. Deflation is a decrease in the price of goods due to reduced demand, while inflation is the tendency for prices to rise in general and continuously (Mankiw, 2006). Where initially inflation was defined as an increase in the money supply or an increase in liquidity in an economy (Suseno & Astiyah, 2009). Inflation occurs because a society tends to want to live beyond the limits of its economic capacity, as a result, public demand for goods exceeds the available goods. With the fluctuations in inflation or deflation that occurred during the coronavirus pandemic, a study was deemed necessary to give extra attention to the issue of inflation or deflation in Central Kalimantan.

## **II. Review of Literature**

### **2.1 Quantity Theory**

Quantity Theory or also called the theory of money is the factors that make changes in the price level because the amount of money in circulation has increased. In other words, the supply of money is greater than the demand for money. This causes inflation (Suseno & Astiyah, 2009). Monetary economists who adhere to the quantity theory are known as monetarist economists. One of them is the economist Milton Friedman, where the most famous statement is "inflation is always and everywhere a monetary phenomenon" (Suseno & Astiyah, 2009).

Monetary authorities in western countries believe that printing money will generate profits for the government (Inflation tax). This is in accordance with the equation "real revenue from printing money" i.e. a high value will create a high inflation rate so that a nominal value is higher than the interest rate, therefore it can be concluded that a high rate of money growth will result in a higher tax rate.

Milton Fiedman has perfected the theory of quantity and formulated the theory of the demand for money. The theory of money demand in its development has become a very important theory in macroeconomic theory (Suseno & Astiyah, 2009).

The theory of money demand states that the demand for money in society is determined by a number of economic variables, including economic growth, interest rates, and price levels. If the money supply is greater than the quantity demanded, the price level will increase and inflation will occur. And if on the contrary the amount of money in circulation is smaller than the amount of money needed, then prices will fall and deflation occurs (Suseno & Astiyah, 2009).

## 2.2 Keynes Theory

Keynes's theory does not fully agree with the quantity theory of money. Keynesian economists state that the quantity theory is invalid because the theory assumes the economy is in full employment conditions. In economic conditions that are not yet full, the increase in money supply can have a permanent effect on real variables such as output and interest rates (Suseno & Astiyah, 2009)

The quantity theory states that an increase in the money supply will cause an increase in the price level, but will not lead to an increase in national income. In Keynes's theory, which has been presented in the introductory chapter, inflation occurs because people want to live beyond the limits of their economic capacity, which results in people's effective demand for goods exceeding the amount of goods available. In the short term phenomenon. This theory is often used to explain the phenomenon of inflation in the short term.

In Keynes' theory, it is assumed that there are two things that cause inflation. First, the amount of money in circulation is greater than the amount of money demanded. Second, because the supply of goods remains, but the amount of demand increases. So the increase in the number of requests is what makes inflation. This will create an inflationary gap, as long as this inflationary gap persists, the process will continue to occur.

Inflationary gap is a chasm that will cause inflation. The conditions that create an inflationary gap are if investment (I) in an economy exceeds the amount of savings (S), and all work at full capacity. This condition is called Full Employment which can be expressed by the equation " $I > S$ ".

Full employment is an economic condition with all factors of production running in full or in full capacity. Factors of production such as land, capital equipment. And zero unemployment in an economy.

## 2.3 Irving Fisher's Theory

Irving Fisher states that rising prices (inflation) is the result of too much money supply. Meanwhile, the decline in money (deflation) is the result of too little money supply. According to

Irving Fisher, inflation that is too high will cause the value of money to decline (purchasing power decreases). Every increase in the price of goods will encourage people to buy as many goods as possible in the hope of getting a profit, and conversely, falling prices encourage everyone to sell or refrain from buying (Natsir, 2013).

## 2.4 Theories According to Other Experts

According to Lerner (Gunawan, 1995), inflation is a condition in which there is excess demand for goods and services in the aggregate (overall). According to Sukirno (1998), inflation is a process of increasing prices generally prevailing in an economy. Meanwhile, according to Mankiw (2000) states that inflation is an increase in the entire price level.

In almost all countries, keeping inflation low and stable is the task of the central bank. A low and stable inflation rate will create the expected economic growth, expansion of employment, and the availability of goods and services to meet the needs of the community (Sutawijaya, 2012).

## 2.5. Inflation Classification

Inflation can be categorized into 4 types (Boediono, 1994)

1. Soft inflation (mild inflation) is inflation of less than 10% per year.
2. Middle inflation (medium inflation) is inflation between 10% and 30% per year.

3. Hard inflation (Heavy Inflation) is inflation between 30% and 100% per year.
4. Hyperinflation (hyperinflation) is inflation exceeding 100% per year.

## **2.6. Inflation Impact**

According to Halim (2018), inflation has a positive impact and a negative impact depending on the severity of inflation. Mild inflation actually has a positive effect (can have a good influence on the economy), namely pushing the economy towards a better direction such as increasing national income, and making people excited to work, save and invest. On the other hand, severe inflation or uncontrolled inflation (hyperinflation) causes chaos and economic sluggishness.

The high level of inflation will make people reluctant to save because the value of the currency is getting lower. To develop a business, people need funds from banks obtained from savings from the community. For businessmen, inflation can be profitable if the income earned is higher than the increase in production costs. However, if it is the other way around, then businessmen can stop their production due to high inflation rates that might cause them to go bankrupt (usually happens to small businesses).

For people with fixed incomes, of course inflation will be very detrimental because it causes an imbalance between income and price levels. For example, factory workers can provide for their daily lives, but with the inflation rate continuing to increase, they may find it difficult to meet their needs.

## **2.7. Central Bank as Inflation Control**

The central bank generally plays a role in controlling the inflation rate at a reasonable level. Bank Indonesia acts as an inflation controller in a relatively limited manner in the event of unforeseen events. An example is the increase in fuel prices in 2005 and 2008, causing a spike in inflation. In this case, it can be concluded that the Central Bank, namely Bank Indonesia, as the controller of inflation in Indonesia requires cooperation with the government through integrated macroeconomic policies, both fiscal, monetary and sectoral policies.

The COVID-19 pandemic, which has been rampant since 2020, has forced many changes in the economy. This situation is complicated by government policies in restraining the rate of development of the COVID-19 infection rate, such as the PSBB which reduces the level of the economy which can affect inflation and deflation rates in Indonesia.

## **III. Research Method**

This type of research data is included in quantitative data with an observation period from 2019 to 2020 comparing the inflation rate in the year before the COVID-19 pandemic, namely 2019 until now in 2020 where the whole world is still feeling the effects of the COVID-19 pandemic. Sources of data used in this study is secondary data in the form of data that supports the research variables. Data from the independent variable in this study is the rate of inflation in 2019-2020. The object of research, namely the Province of Central Kalimantan.

The calculation of the inflation rate comes from the inflation rate recorded and published by BPS (Central Statistics Agency) every month (Time Series) for 2019-2020. Testing the data is normally distributed using the Kolmogorov-Smirnov method with a significant value of  $> 0.05$  for the data analysis method that has been tested is normally distributed using paired samples t-test analysis with the significance level value used is  $< 0.05$ .

#### IV. Result and Discussion

Inflation is a process of increasing prices in general and continuously (continuously) in the long term. Inflation is related to the market mechanism, which can be caused by various factors, among others, increased public consumption or the uneven distribution of goods. In other words, inflation is a continuous process of decreasing the value of a currency. On the other hand, deflation is a period in which prices generally decline and the value of money increases. BPS publishes inflation rate data in Central Kalimantan Province as follows:

**Table 1.** Inflation Data for 2019 and 2020

Month	2019	2020
January	0.42	0.06
February	-0.18	0.59
March	-0.02	-0.22
April	0.44	-0.18
May	0.72	0.28
June	0.14	0.44
July	-0.24	-0.03
August	-0.29	-0.50
September	-0.07	-0.30
October	0.48	0.02
November	0.39	0.52
December	0.66	0.35
Average	0.20	0.09

*Source: BPS, 2021*

In 2019 in Indonesia, the effects of the Covid-19 pandemic have not yet been felt because at the end of 2019 this virus only appeared in Wuhan City, Hubei Province, China, but this virus has not been detected with certainty. The cause was identified on January 10, 2020 and the genetic code was determined, namely the corona virus (Handayani, Hadi, Isbaniah, Burhan, & Agustin, 2020). In 2019, especially in Indonesia, there has been no economic impact on the coronavirus. The impact was only felt in March 2020 when the corona virus began to suppress the economy in Indonesia. The deflation that occurred in March and April 2020 can be said to be caused by government policies regarding restrictions on activities outside the home in order to suppress the wider spread of the coronavirus. This social or physical distancing has an impact on the overall decline in economic activity (Iskandar, 2020).

There was a slight increase in May and June but not as high as in the previous year due to the month of Ramadan and Eid al-Fitr where this increase is common every year. On Eid al-Fitr, population mobility is very high because the majority of Indonesia's population is Muslim. At that time purchasing power and consumption were very high compared to other times due to increased consumption levels during Eid al-Fitr (Susila, 2020). The economic downturn usually occurs in July to September or in the third quarter, this has become a trend every year along with the completion of Eid al-Fitr which results in the return of normal levels of public consumption and will rise again in the fourth quarter, namely October to December. This is due to the Christmas holiday and the atmosphere of New Year's celebrations (Susila, 2020). The normality test of these data shows that:

**Table 2.** Data Normality Test

Tests of Normality						
	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
2019	.198	12	.200*	.919	12	.276
2020	.127	12	.200*	.960	12	.777

Source: processed data, 2021

The table above shows the results of the data normality test using the Kolmogorov-Smirnov of 0.200 where the minimum value is 0.05. It can be concluded that the inflation data in 2019 and 2020 above are normally distributed. Furthermore, the data can be tested using paired samples t-test analysis in SPSS statistical software version 25 where the significant value is  $<0.05$ . This value is in accordance with the opinion of Singgih Santoso (2014), Guidelines for decision making in the paired samples t-test test based on the significance value (sig.) the results of the SPSS output are as follows.

1. If the significance value (2-tailed)  $< 0.05$ , then "H0" is rejected and "Ha" is accepted.
2. If the significance value (2-tailed)  $> 0.05$ , then "H0" is accepted and "Ha" is rejected.

"H0" is that there is no difference in the average of the two data being compared, while "Ha" is that there is a difference in the average of the two data being compared.

The output results of the paired samples t-test are as follows:

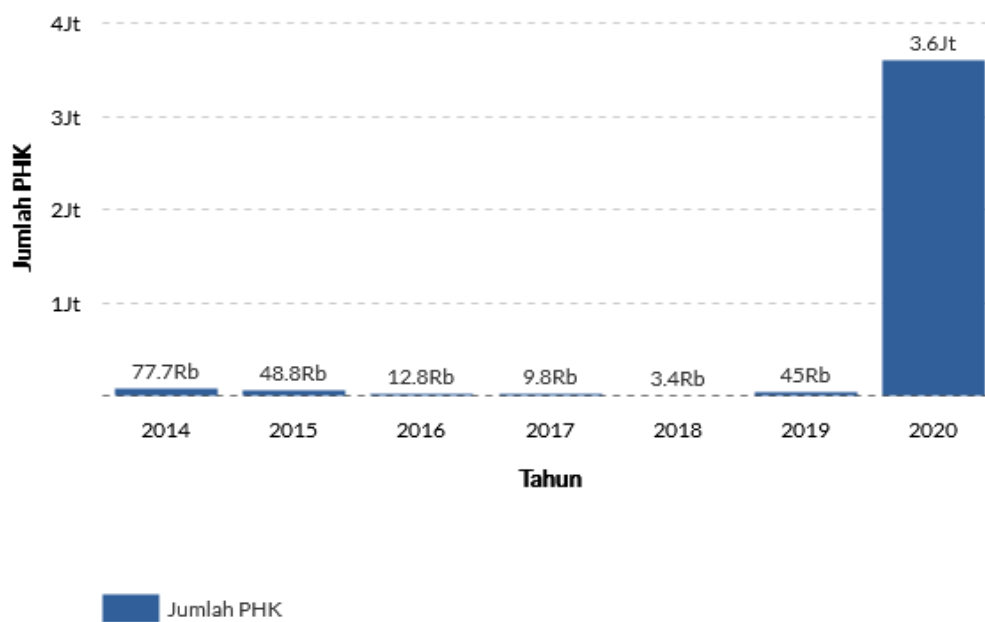
**Table 3.** Testing of Inflation Data

Paired Samples Test								
	Paired Differences						Sig. (2-tailed)	
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t		
				Lower	Upper			
Pair 1 2019 2020	-0,11833	0,39637	0,11442	-0,13351	0,37017	1,034	11	0,323

Source: processed data, 2021

Based on the output table above (paired samples test), it is known that the value of Sig.(2-tailed) is 0.323. Then the value is greater than 0.05 according to the criteria described. Then the significance value (2-tailed)  $> 0.05$ , which means "H0" is accepted and "Ha" is rejected. So it can be concluded that there is no difference in the average of the two data being compared. There is no significant difference in the inflation rate in 2019 compared to 2020. This indicates that the inflation rate during the COVID-19 pandemic was still normal in Central Kalimantan Province with an average inflation of 0.20% in 2019 and 0.09% for 2020. This is almost the same for other regions on the island of Kalimantan.

This is not in line with the opinion of Sutawijaya, (2012) that the inflation rate is normal and stable, will create the expected economic growth, expansion of employment, and the availability of goods and services to meet the needs of the community. What happened in Central Kalimantan was deflation and the decline in economic growth and high unemployment. Due to COVID-19, there have been many layoffs which have resulted in a lot of people losing their income. The addition of the unemployment rate is shown in Figure 1. The addition of employees who work at home (WFH) makes the circulation of money and supply of goods decrease, because people focus on health and prioritize the fulfillment of basic food or primary goods rather than buying secondary or complementary goods.



Source: Kementerian Ketenagakerjaan  
 Figure 1. The number of layoffs in Indonesia from 2014 – July 2020



Source: BPS of Central Kalimantan  
 Figure 2. Central Kalimantan's 2020 Open Unemployment Rate Compared to 2019

## V. Conclusion

Based on the results of the analysis that has been carried out, it can be concluded that the impact of COVID-19 on inflation in Central Kalimantan Province is that there is no change, on the contrary there is deflation in April 2020. As a result of the virus, people prefer to stay at home and leave activities outside their homes, so that circulation money is reduced. This can be seen in April that there was a deflation of -0.18 compared to the previous year in the same month inflation of 0.44.

The inflation rate also decreased in the following months compared to the previous year as a result of the PSBB carried out by the government in order to suppress the rate of transmission of the COVID-19 virus. However, this did not cause severe deflation, due to the government's policy of only implementing PSBB at 20.00 – 03.30 WIB (Palangka Raya city) according to the policies of each city and district government in Central Kalimantan Province, so that people can carry out economic activities outside of normal hours. by continuing to carry out health protocols according to government recommendations.

From the examination of BPS inflation data, it can be concluded that the impact of the COVID-19 pandemic on inflation in Central Kalimantan Province is not significant compared to previous years. However, there was deflation in 2020 compared to 2019 of 0.11%. This is due to a decrease in people's purchasing power and a decrease in money circulating in the community due to the policy of limiting activities set by the government. The results of this study are in line with the results of research from Silaban, PS, Putra, PD, Dilani, E., & Simbolon, KP (2020) regarding the Analysis and Strategy of the Money Supply, Interest Rates and Exchange Rates Against Inflation Due to COVID-19 in Indonesia, which states that the money supply has a positive effect on inflation.

Controlling inflation and deflation is not enough only through monetary policy on a national scale. The problem of inflation or deflation can also be caused by non-monetary problems and poor coordination with the central government. With the weakening of people's purchasing power, it is hoped that the government can pay more attention to the emerging MSMEs and it is hoped that local government policies will be able to encourage the emergence of new MSMEs.

The government, through Bank Indonesia, is the holder of the monetary authority, in order to maintain and take steps to control inflation and deflation so that the economic cycle in society remains stable. Such as the implementation of various program innovations aimed at maintaining Consumer Price Index (CPI) inflation as well as the Government and Bank Indonesia both at the center and in the regions to work together to maintain CPI inflation.

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