

The Relationship between Covid-19 and Consumption Patterns of Poor Households

RESHA MONIYANA PUTRI, HERU WAHYUDI

Economics Development Department, University of Lampung Lampung, INDONESIA

Abstract: — **Objective :** This research aims to analyze the relationship between Covid-19 and Consumption Patterns of Poor Households. The phenomenon of the Covid-19 pandemic has caused various social and economic changes. Changes in behaviour and preferences are an important part of the research by emphasizing *the* analysis of changes in expenditure during the Covid-19 pandemic and post-Covid-19.

Method: This research is in the form of quantitative descriptive, the type of data used by researchers is primary data using a questionnaire that refers to the IFLS (*Indonesian Family Life Survey*) *questionnaire*. Primary data includes questionnaires and poor people during and post-pandemic in 2019 and 2022 in rural and urban areas. The research area includes several village comparisons of Bandar Lampung City, South Lampung Regency, and Pringsewu Regency. The multiple linear methods are performed with the t-test in pairs using the statistical tool Stata.

Results : The results of the study concluded that in the different tests there was no difference in food expenditure during the Covid-19 and post-Covid-19 *period*, between urban and rural areas, because of the tendency to have both low food expenditures during the pandemic and increase in post- pandemic. The food consumption patterns of the two regions still tend to buy the same staples. There is a difference in non- food expenditures during the rural Covid-19 period is higher because health and urban costs are lower, in the post-Covid-19 rural areas are lower and urban areas are higher.

Conclusion and suggestions : The advice to the government, as cases of the Covid-19 pandemic, rise again, is to focus on providing free health services to the poor, because the expenditure on health services is quite large during the covid-19 pandemic. The government is also expected to be able to provide prolonged food staples to poor households plus complementary ingredients such as fruits, vegetables, milk, meat, and foods with high nutrition and protein.

Key-words— IFLS, Covid-19, Preferences, Consumption, Food, Non-Food

Received: February 12, 2024. Revised: August 11, 2024. Accepted: September 7, 2024. Published: October 15, 2024.

1. Introduction

The Phenomenon of the Covid-19 Pandemic that occurred at the end of 2019 made considerable changes to human life around the world, various problems appeared suddenly in a relatively short and unexpected time. The micro and macro economy were also affected by this phenomenon, specifically in Lampung province, in the BPS exposure (2020) stated that the Economic Growth of Lampung Province in 2020 was -1.67% although it was still higher than the National Economic growth of -2.07%, still, the growth was negative.

When viewed on the growth of GRDP from several components of expenditure in figure 1. which shows all components of expenditure, which are household consumption expenditures, LNPRT consumption expenditures, government consumption expenditures, gross fixed capital formation, exports of goods and services, imports of goods and services, experienced negative growth in the third quarter of 2020, when compared to the growth of GRDP in the fourth quarter of 2019. Of the six components of expenditure, the most

crucial component of expenditure directly in contact with the needs of life is household consumption expenditure. Seen in figure 1. shows that the GDP growth for the Household Consumption Expenditure component over the past two periods has continued to experience negative growth, which originated in the fourth quarter of 2019 was 5.33% and then fell in the third quarter of 2020 to -2.59%, and continued to fall to -3.97% in the fourth quarter of 2020. The period that occurred from the fourth quarter of 2019 to the fourth quarter of 2020 coincided with the Covid-19 pandemic in Indonesia.

Household consumption consists of food and non-food consumption, if the growth of GRDP for the expenditure component experiences negative growth, it can be interpreted that there is a change in consumption patterns generally, that is the possibility of reducing food and non-food consumption which is carried out simultaneously, in line with policies that limit the space for people to move in general such as PSBB (Large Social Restrictions) which cause economic movements to slow down due to activity or productivity also slow down for several sectors, both people in urban as well as rural areas.

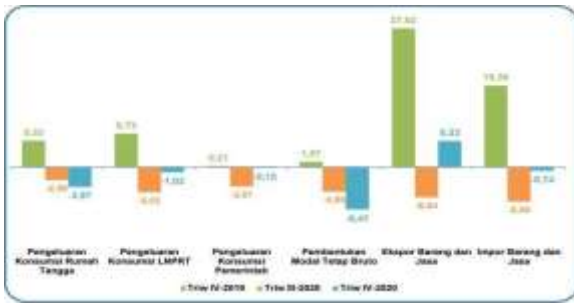


Figure 1. GRDP growth of several expenditure components (percent) in Lampung Province (Source: BPS Lampung Province)

Consumption according to Samuelson and Nordhaus (2001), is an expenditure made to meet the purchase of goods and services to obtain satisfaction and to meet their needs while the problem of household income, in addition to the problem of Suparyanto (2014) the amount of real income from all household members used to meet the needs of the common and individual in the household. Family income is the return of work or services or rewards obtained due to donations made in production activities. A person's income has a limited amount, both in large quantities and in small amounts. Based on the limited income earned by a person, the income will be spent or consumed with a limited amount as well. The needs of a person are variegated, the need for food, the need for clothing, the need for care and so on. Based on these necessary needs, someone buying goods for consumption must be more than one. Then there is a combination of things that are spent by a person. All combinations of goods with the total amount of money spent equal to income are called *budget lines*, (Pindyck & Rubinfeld, 2009).

Data on the poor population that has been published by BPS and the presentation of the head of BPS Mr Kecuk Suhariyanto in a press release stated that the percentage of poor people in urban areas in September 2020 was 7.88%, while the percentage of poor people in rural areas was 13.20%. In comparison, in September 2019, the number of poor people in urban areas was 6.56%, while in rural areas it was 12.60%, there was a significant difference. From September 2019 to September 2020, Covid-19 turned out to have more impact on cities. Due to the Covid-19 pandemic, the urban poor rose by 1.32%, while in rural areas it rose by only 0.60%. Although the increase in the rural poor is smaller, there is still a fairly high poverty disparity between cities and villages, where the percentage of poverty in villages is always higher than in cities. (press release BPS, bisnis.com. 2021).

Lampung Province consists of fifteen city districts, two municipalities and thirteen districts, as shown in figure 2. which shows the percentage of poor people in the regency/city of Lampung province. Bandar Lampung City and Metro City as urban areas in Lampung Province, it can be seen that the percentage of the number of poor people in urban areas in Bandar Lampung City is the highest i.e. 10% followed by Metro City at 2%. So that in this study the area that will be the object of research is Bandar Lampung City.

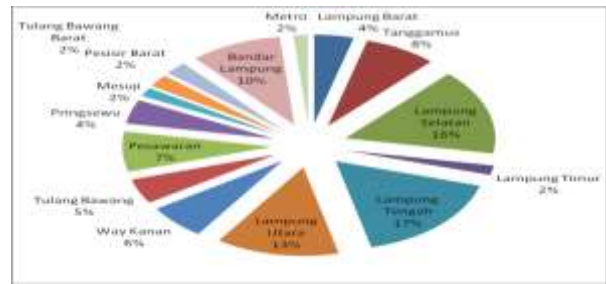


Figure 2. Percentage of Poor Population of Regencies/Cities in Lampung Province in 2019 (Source: BPS Lampung Province, Data Processed)

Urban areas are still in the spotlight of social and economic problems (Mc Gee, 1971). The growing and developing urban areas also led to the development of heterogeneity that showed the social differences of its population (Mc Gee, 1995). This heterogeneity is furthermore more clearly seen from the existence of the urban formal and informal sectors. This happens because of the separation between population groups based on the economic and social differences of their population. Formal economic activity in urban areas is not able to absorb workers with low education and ability, so workers with low productivity work in the informal sector (Lacabana and Cariola, 2003). In addition, the existence of slums with limited supporting facilities and infrastructure indicates the existence of pockets of poverty (*slum areas*) in urban areas. Here is a picture of urban and rural poverty in Lampung province:

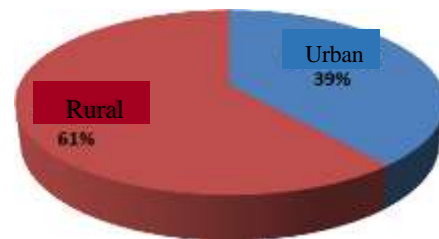


Figure 3. Average Percentage of Urban and Rural Poor in Lampung Province in 2015-2019 (Source: BPS Lampung Province, Data Processed)

Poverty is a dimensional and interrelated problem between regions, figure 3. Show that the average predominance of poverty is in rural areas at 61% and urban areas in Lampung province at 39%. Several studies on the problem of urban and rural poverty explain various complex phenomena and explanations. The matter of decision-making in urban research is also described by SMERU (2011), urban impoverishment is now an increasingly relevant and urgent issue to be addressed related to the trend of urban development dynamics in Indonesia. As an illustration, from 1980 to 2010, urban population growth in Indonesia reached 3.85% and this made the proportion of the urban population increase from 22.10% in 1980 to 44.28% in 2010. The data also shows that the proportion of poor people living in urban areas increased rapidly from 18.45% in 1976 to 36.61% in 2009. From this data, it can be seen that the trend of population urbanization in Indonesia is also followed by

urbanization of poverty which further has an impact on the emergence of various aspects of urban poverty problems such as physical aspects (related to the availability of infrastructure and transportation facilities) and nonphysical aspects such as socio-economic conditions (limited employment, inequality, injustice), or ecological aspects (floods and environmental pollution).

The problem that occurred, we tried to analyze and study the poverty of the capital of Lampung Province, namely Bandar Lampung and a sample of villages through 2 districts, namely South Lampung and Pringsewu. This study will look at behaviours and preferences in terms of food and non-food consumption expenditures in poor households during the pandemic Covid-19 and post-Covid-19.

2. Literature Review

2.1 Consumption Theory

According to Mankiw (2000) "Consumption is a good or service purchased by a household, consumption consists of non-durable goods are goods that are consumed in a short time, such as food and clothing. The second is durable goods (*Durable Goods*) are goods that have a long life such as cars, televisions, electronic devices, cell phones and other. Third, services *include* work done for consumers by individuals and companies such as haircuts and seeing a doctor. Which is spent on the purchase of goods and services to obtain satisfaction and meet needs."

The Consumption function can be expressed in the Mankiw (2003) equation:

The Consumption function is: $C = C_0 + cY$

Where C is the constant or consumption of the household when income is 0, c is the tendency to consume marginal which means $0 < c < 1$, where C is consumption and Y is the income level, there are two concepts to know the nature of the relationship between income in the possibility with consumption and disposable income with savings, namely the concept of the tendency to consume and the tendency to save.

2.2 Consumption Expenditures

In general, it is defined as the use of goods and services that will directly meet human needs. Furthermore, Sukirno (2006) defines consumption as the expenditure made by the household on goods and services final to meet the needs of the person who performs the work. Households receive income from the labour and capital they own, pay taxes to the government and then decide how much of the after-tax income is used for consumption and how much to save.

1. Consumption Theory According to Keynes

The theory of consumption was put forward by JM. Keynes said that the size of consumption expenditure is based only on the size of the income level of the people. Keynes stated that there are minimum consumption expenditures that must be made by the people (autonomous consumption and consumption expenditures will increase with the increase in

income. Some of the characteristics of the consumption function according to Keynes are that, first, the main determinant of consumption is the level of income. Secondly, the tendency to Marginal Consumption (Marginal Propensity to Consume) – the increase in consumption due to an increase in income by one unit. In other words, MPC is the increase or change in consumption (ΔC) that society makes as a result of an increase or change in disposable income or income that is ready to be spent (ΔY). Third, the consumption-to-income ratio, called the Average Propensity to Consume, falls when incomes rise, thus the APC decreases in the long run and the MPC is smaller than the APC ($MPC < APC$).

In addition to income, consumption expenditure is also influenced by other factors, such as wealth, socioeconomic level, tastes, interest rate and others. From the description above, it can be concluded that the function of consumption describes the nature of the relationship between the level of household consumption in the economy and national income or the disposable income of the economy. In the features of the consumption function, it is stated that the APC measures the disposable income that the household wants to spend as consumption. The MPC measures any disposable income gains that households want to spend as consumption. According to Samuelson & Nordhaus (1999) "Consumption is the expenditure for the purchase of final goods and services to obtain satisfaction or meet their needs.

2. Income Theory

People will choose basic necessities for consumption, taking into account the use value of these goods. The limited budget of income received by the community causes people to have to delay consuming goods that have high use value. Salvatore (1994) argues that individuals ask for a certain commodity because of the satisfaction received from consuming an item. Up to a certain point, the more units of a commodity that such an individual consumes per unit of time, the greater the total utility will be received. On the other hand, Samuelson (1999) mentioned that if prices increase and nominal income is fixed, then real income will decrease, and then consumers will reduce the purchase of almost a type of goods.

3. Methodology

3.1 Data Types and Sources

This type of method uses Quantitative Descriptive Analysis. In this preparation, the type of data used by the researcher is primary data. Primary data includes questionnaires and poor people who received PSC assistance before the pandemic in 2019 and during the Covid-19 pandemic after 2019, in the Bandar Lampung City area and villages in Pringsewu and South Lampung Regencies.

3.2 Operational Definition of Research Variables

This study consists of four variables by considering when before the Covid-19 pandemic took place and during the pandemic. To clarify and facilitate the understanding of the variables to be analyzed in this study, it is necessary to explain as follows:

TABLE I. Variables, Symbols, Units, and Data Sources

No	Variable	Indicators
1	Consumption Expenditures Food era Pandemic Covid-19	Staple Food, Vegetable, Dry Food, Meat/Fish, Other Side Dishes, Milk/Eggs and Spices.
2	Food Consumption Expenditure in the aftermath of the Covid-19 Pandemic	
3	Non-Food Consumption Expenditures during the Covid-19 Pandemic era	Electricity, water, household fuel, Telephone, Body maintenance needs, Household goods, recreation and entertainment and Transportation, clothing, household supplies and appliances, health costs, taxes and expenditures on the value of non-food materials.
4	Non-Food Consumption Expenditure after the Covid-19 Pandemic	

Source: Primary Data

3.3 Operational Definition of Research Variables

The definition of each variable used in this study is as follows:

1. Food Consumption Expenditure

Expenditure is based on income spent for a month for food consumption needs by families receiving social assistance for the PSC program in rupiah, in Bandar Lampung City area and in rural areas, Pringsewu and South Lampung Regencies, during and after the Covid-19 pandemic.

2. Non-Food Expenditure

Expenditure is based on income spent for a month for non-food consumption needs by families receiving social assistance for the PSC program in rupiah, in the Bandar Lampung City area and in villages in Pringsewu and Lampung Regencies South era and post Covid-19 pandemic.

3.4 Determination of Lemeshow Sample

Sampling techniques in determining the sample size of this study, the authors used the Lemeshow Formula, Lemeshow formulas are used due to the unknown number of the population or infinite population. Lemeshow equation is:

$$n = \frac{Z^2 P (1 - P)}{d^2}$$

Information:

- N : Number of Samples
- Z : Z score at 95% confidence =1.96
- p : Maximum estimate = 0.5
- d : Sampling error = 10%

3.5 Specification of Research Model with Paired t Test

Paired sample t-tests, sometimes called dependent sample t-tests, are statistical procedures used to determine whether the average difference between two sets of observations is noted. Paired t-tests, also referred to as paired sample t-tests or dependent t-tests, are used to determine whether the mean of dependent variables is the same in two related groups. Four assumptions in favour of paired t-tests; (1) the dependent variable must be measured at the interval or ratio level, (2) the independent variable must consist of two categories, "related group" or "matching pair"; (3) there should be no significant outliers in the differences between the two related groups; and (4) the distribution of differences in bound variables between two related groups must be approximately normally distributed. Decision-making guidelines in paired T-Tests. Analysis of Stata Data in Paired T-Test Test according to Singgih Santoso (2014: 265) guidelines for decision making in paired t-tests based on significance values (Sig) of stata output results are as follows:

3. Jika Sig. (2-tailed) <0.05, then H0 is rejected and Ha is accepted.
4. Conversely, if the value of Sig. (2-tailed) > 0.05, then H0 is accepted, and Ha is rejected.

In addition to comparing the significance value (Sig) with the probability of 0.05, the other way to test the hypothesis in the t-test of a paired sample is to test the t-count value with the table. The guidelines or basis for decision-making are as follows:

1. If the calculated value of $t > t$ of the table, then H0 is rejected and Ha is accepted, then there is a difference in food and non-food expenditure.
2. Conversely, if the value of t counts $< t$ table, then H0 is approved and Ha is rejected, then there is no difference in food and non-food expenditure.

In addition, based on the output table, it can be known to calculate positive values and or negative values. The average value of consumption expenditures caused this negative t-value before funding assistance from food, non-food distribution and changes in income before and during the Covid-19 pandemic. This is lower than the average consumption expenditure after the Covid-19 pandemic.

4. Result

4.1 Results of Determining Research Samples

This study was conducted to compare the consumption patterns of urban areas represented by Bandar Lampung City with Sepang Jaya City District. In rural areas, 2 districts are represented, namely Pringsewu with Pringsewu District, Pajaresuk village and South Lampung, Jati Agung District and Wayhuwi village. The study was conducted with the objects of the recipients of the hope program or KPM of each region. The result of the formula Lemeshow are:

$$n = \frac{Z^2 P (1 - P)}{d^2}$$

$$n = \frac{1,96^2 \cdot 0,5 (1 - 0,5)}{0,1^2}$$

$$n = \frac{3,8416 \cdot 0,25}{0,01^2}$$

$$n = 96,04 = 100$$

Using the Lemeshow formula above, the sample value (n) obtained was 96.04 which was then rounded to 100 people. In the urban consumption pattern represented by Bandar Lampung City with Sepang Jaya City District, the total sample is 100 KPM people and in rural areas 2 districts, namely Pringsewu with Pringsewu District, Pajaresuk village, a total sample of 50 KPM people and South Lampung, Jati Agung District, Wayhuwi village, a total sample of 50 KPM people. In this study, the samples were divided into 100 samples for urban areas and 100 samples for rural areas.

4.2 Descriptive Statistics

Descriptive statistical analysis is used to provide a general overview of the characteristics of each variable of the research consumption pattern which is seen from the average (mean), maximum, and minimum values. The results of these descriptive statistics are an overview of the data. The following is a table of data descriptions of each variable used:

TABLE II. Descriptive Statistics of Consumption Patterns

Variables	Mean	Std. Dev.	Min	Max
KS02COV	365825	109723	158000	556000
KS02 PASCO V	374460	143622	154000	1020000
KS06COV	441747	172779	53000	918000
KS06 PASCO V	1191920	167813	0	5500000
KS08COV	708980	701582	0	2820000
KS08 PASCO V	256895	244909	0	1000000

Source: Processed using Stata

- KS02 is a purchase expenditure for food staples in urban and rural areas in Lampung Province. During the Covid-19 pandemic, the average expenditure was IDR 365,825 per month with a minimum expenditure of IDR 158,000 per month, while the maximum expenditure was IDR 556,000 per month. KS02 expenses after the Covid-19 pandemic average expenditure of Rp. 374,460 per month with a minimum expenditure of Rp. 154,000 per month, while the maximum expenditure is Rp. 1,020,000 per month.
- KS06 is a non-food expenditure including electricity, water, household fuel, telephone, body maintenance needs, household goods, recreation and entertainment and transportation, in urban and rural areas in Lampung Province. During the Covid-19 pandemic, the average expenditure was IDR 441,747 per month with a minimum expenditure of IDR 0 per month, while the maximum expenditure was IDR 918,000 per month. KS06 expenditure in the aftermath of the Covid-19 pandemic

averaged Rp. 1,191,920 per month with a minimum expenditure of Rp 0 per month, while the maximum expenditure was Rp 5,500,000.00 per month.

- KS08 is the expenditure of non-food materials including clothing, household supplies and appliances, health costs, taxes and expenditures on the value of non-food ingredients, in urban and rural areas in Lampung Province. During the Covid-19 pandemic, the average expenditure was IDR 708,980 per month with a minimum expenditure of IDR 0 per month, while the maximum expenditure was IDR 2,820,000 per month. KS08 expenditures in the post-Covid-19 pandemic averaged expenses of Rp. 256,895 per month with a minimum expenditure of Rp. 0 per month, while the maximum expenditure was Rp. 1,000,000 per month.

4.3 Results and Discussion of Different Tests with Paired t- tests

Paired t-tests or different tests to examine the consumption patterns of household expenditures, both food and non-food expenditures, during Covid-19 and post-Covid-19 in 2019. To parametrically test the difference, a Paired T-test is used. Results from the Paired test. Presented in the following table:

TABLE III. Paired t-test Test Results

Variables	Mean	Std. Err.	Std. Dev	[95% Conf. Interval]
KS02COV	365825	10972	109723	344053
KS02PA~V	374460	14362	143622	345962
Ha: mean(diff) < 0 Pr(T < t) = 0.2005		Ha: mean(diff) != 0 Pr(Q > t) = 0.4010		
Variables	Mean	Std. Err.	Std. Dev	[95% Conf. Interval]
KS06COV	441747	17277	172779	407463
KS06PA~V	191920	167813	1678132	858942
Ha: mean(diff) < 0 Pr(T < t) = 0.0000		Ha: mean(diff) != 0 Pr(Q > t) = 0.0000		
Variables	Mean	Std. Err.	Std. Dev	[95% Conf. Interval]
KS08COV	708980	70158.24	701582.4	569770.8
KS08PA~V	256895	24490.99	244909.9	208299.6
Ha: mean(diff) < 0 Pr(T < t) = 1.0000		Ha: mean(diff) != 0 Pr(Q > t) = 0.0000		

Source: Processed using Stata

Here are the results of the parametric statistical interpretation of paired t Sig. (2-tailed) and the discussion between variables:

- The KS02 variable is the purchase expenditure for food staples, KS02 Covid-19 and KS02 Post Covid-19. t-count of -0.8434 with p-value Pr(|Q| > |t|) = 0.4010 in 99 degree of freedom (DF). The value of the variable signification rate is 0.4010 > 0.05, then the decision taken is to accept H_a, so KS02 is insignificant on the test. The results above explain that there is no difference in

purchase expenditure for food staples during Covid-19 and Post-Covid-19.

- The variable KS06 is the expenditure on non-food materials including electricity, water, household fuel, Telephone, Body care needs, Household goods, recreation and entertainment and Transportation. KS06 Covid-19 and KS06 Post Covid-19. t-count of -4.4459 with p-value, $\Pr(|Q| > |t|) = 0.0000$ in 99 degree of freedom (DF). The value of the variable signification rate is $0.0000 < 0.05$, then the decision taken is to reject H_0 , so that KS06 is significant on the test. The results above explain that there is a difference in the expenditure on non-food ingredients during Covid-19 and post-Covid-19, the difference in the value of the amount of expenditure is IDR 750,173.00.
- The KS08 variable is the expenditure on non-food materials including clothing, household supplies and appliances, health costs, taxes and expenditures on the value of non-food ingredients. KS08 Covid-19 and KS08 Post Covid-19. t-count of 5.6002 with p-value, $\Pr(|Q| > |t|) = 0.0000$ in 99 degree of freedom (DF). The value of the variable signification rate is $0.0000 < 0.05$, then the decision taken is to reject H_0 , so that KS08 is significant on the test. The results above explain that there is a difference in non-food expenditure during Covid-19 and Post-Covid-19, the difference in the value of the amount of expenditure is IDR 45,208.00.

5. Discussion

Identification begins with looking at the overall data on urban and rural expenditures. The sample used was 50 respondents from Bandar Lampung City and 25 respondents of south Lampung Regency and 25 respondents of Pringsewu Regency. Broadly speaking, data analysis is as follows:



Figure 4. Average urban and rural expenditure in Bandar Lampung City, South Lampung Regency and Pringsewu Regency.

The food expenditure of the poor both in urban and rural areas concerns Vegetable, Dry Food, Meat/Fish, Other side dishes, Milk/Eggs and Spices. Non-food expenditures concern the sections of electricity, water, household fuel, telephone, body maintenance needs, household goods, recreation and entertainment and Transportation, clothing, household appliances and appliances, health costs, taxes and expenditures on the value of non-food materials. In urban areas during the Covid-19 pandemic, the average monthly expenditure in poor households was Rp. 385,000.00, while in the post-Covid-19 period it was Rp. 410,000.00. In non-food consumption expenditures during the Covid-19 pandemic, the average expenditure a month in poor households was IDR 300,000.00 while in the post-Covid 19 periods it was IDR 355,000.00. In rural areas during the Covid-19 pandemic, the average monthly expenditure in poor households was Rp. 355,000.00, while in the post-Covid-19 period it was Rp. 364,000.00. In non-food consumption expenditures during the Covid-19 pandemic, the average monthly expenditure on poor households was RP 364,000.00, while in the post-Covid 19 periods it was IDR 335,000.00.

Judging from the figures in the picture of food expenditure in Bandar Lampung Urban area and the comparison in rural South Lampung and Pringsewu there is no difference. Broadly speaking, during the Covid-19 period, city and village food expenditures were both low, while post-Covid-19 both had an increase. The results of direct interviews also have the same tendency to answer, that the main factors of low spending are lack of work productivity and loss of work during the Covid-19 period. Poor households in urban and rural areas in the pandemic situation bring people's food expenditures to changes in the consumption patterns of staples or change their staples to more affordable types and prices. In the post-Covid-19 situation, food and non-food expenditures tend to increase again, because the situation has returned to stability in finding income. (Ioannis Kostakis, 2020) the household composition has an influence on the amount of food consumed, price elasticity, and income is estimated to confirm that most foodstuffs are inelastic to price and income, thus affecting expenditure on food.

This result is in accordance with the different tests that there is no difference in expenditure on the purchase of food staples during the Covid-19 pandemic and post-Covid-19. The absence of food changes in poor households in the study area is on average due to the purchase of unchanged types of poor household foodstuffs. changes will occur in consumption patterns when one family is constrained by the impact of Covid-19 because there are new types of consumption such as buying fruits, medicines, milk, and various sources of nutrition and protein in foodstuffs that help

in the recovery of families affected by the Covid-19 pandemic. On the one hand, the food situation also tends to be flexible in the situation faced both during the pandemic and post-pandemic, the average change in food expenditure in poor households is also influenced by factors of increasing income and the impact of Covid-19. This is in line with research, (Kuan-Ming Huang, 2021), Findings show that lower-middle-class households are less likely to increase their grocery spending during the pandemic. Households with children or the elderly who usually need a higher quality of food and nutritional intake have a higher probability of increasing their spending during Covid-19 than ever before. In addition, consumer spending behaviour is also influenced by the safe delivery rate and severity of Covid-19 as well as the accessibility of food in their residences. (Meike Janssen, 2021) Broadly speaking, people shop less frequently during the lockdown and there is a reduction in overall consumption of fresh food, but an increase in consumption of foods with longer shelf-life increases. the pandemic has had a different impact on people's lifestyles and food consumption patterns.

In terms of non-food expenditure, judging from the figures in the picture of urban non-food distribution in Bandar Lampung City and comparisons in Rural Areas of South Lampung and Pringsewu, there are differences. During the Covid-19 era, in urban areas, non-food expenditure tends to be low, and in rural areas, non-food expenditure tends to be high. The difference in villages is found in health costs, where more village households have families with old age with various health vulnerability problems during the Covid 19 period. Health costs, body care needs and transportation costs that tend to increase in villages cause differences in expenditure on non-food ingredients. In urban areas, non-food expenditure during the Covid period tends to be low because the urban poor who are not affected by Covid save more of their income, while for covid-affected households in urban areas, on average, they enjoy government health care assistance that is distributed more quickly. In the post-Covid-19 period, the difference in urban areas was higher in non-food because community activities that began to be active tended to spend on recreation, entertainment, clothing, equipment and household appliances. Meanwhile, in villages, it is declining because they prioritize food needs over non-food.

This result is in accordance with the different tests that there are differences in expenditure on the purchase of non-food staples in urban and rural areas during the Covid-19 pandemic and post-Covid-19. This result is in line with research, (Jimin Xiong, 2021) On materials needs other than food, expenditure on medical health care increased during the Covid 19 period. Spending on medical health care is money for goods and services related to health care, such as medicines, health products, and exercise. Spending on the

consumption of goods for clothing, recreation, and education decreased during the pandemic. (S K Srivastava, 2020), The COVID-19 pandemic has affected the incomes of most households, and it is expected that creating an imbalance of income changes will affect consumption differently according to commodities and it will lead to a more proportional change in non-food expenditures. Food expenditure will indicate inelastic demand and change less than proportionally due to changes in income. The response in food commodities will also vary, depending on the value of their elasticity.

6. Conclusion

The food expenditure of poor households in urban Bandar Lampung and rural areas of South Lampung and Pringsewu Regencies has not changed, as can be seen from the decline in both of them experiencing a decline during the Covid-19 period and an increase in post-Covid-19. Non-food expenditures have a difference where non-food expenditures in urban areas tend to be low and in rural areas tend to be high, while post-Covid-19 urban expenditures tend to increase and rural areas tend to decrease, this is because during the Covid-19 period non-food expenditures in rural areas increased for health and care costs, while post-covid-19 expenditures in urban areas increased for entertainment and recreation costs in poor households.

References

- [1] Badan Pusat Statistik. (2019). Dampak Covid-19 terhadap kemiskinan perkotaan <https://bandarlampungkota.bps.go.id/> <https://investor.id/business/dampak-covid19-terhadap-kemiskinan-lebih-tinggi-di-perkotaan>
- [2] Berges, M. E., & Casellas, K. S. (2002). A Demand System Analysis of Food for Poor and Non-Poor Households. The Case of Argentina. *Paper Prepared for Presentation at the Xth EAAE Congress 'Exploring Diversity in the European Agri-Food System, August, 28–31.*
- [3] Dewi Mayasari¹, Iswan Noor², D. S. (2018). Analisis Pola Konsumsi Pangan Rumah tangga Miskin Di Provinsi Jawa Timur. *JIEP-Vol. 18, No 1, Maret 2018 ISSN (P) 1412-2200 E- ISSN 2548-1851, 18(1), 34–49.*
- [4] Dubihlela, D., Africa, S., Sekhampu, T. J., Education, M., & Africa, S. (2015). The Impact Of Price Changes On Demand Among Poor Households In A South African Township. *International Business & Economics Research Journal – May/June 2014, 13(3), 463–474.*
- [5] Haryatiningsih, R., & Haviz, M. (2019). Analisis Pengeluaran Konsumsi Masyarakat Miskin Kota Bandung (Studi Kasus : Kawasan Kumuh Kelurahan Babakan Surabaya , Kiaracondong , Kota Bandung). *Prosiding Ilmu Ekonomi Prodi Ilmu Ekonomi, Fakultas Ekonomi Dan Bisnis, Universitas Islam Bandung, Jl., 5(2).* [https://doi.org/ISSN: 2460-6553.](https://doi.org/ISSN: 2460-6553)

- [6] Lacabana, Miguel dan Cecilia Cariola. (2003). *Globalization and metropolitan expansion: Residential Strategies and Livelihoods in Caracas and its periphery*, Environment and Urbanization 2003; 15; 65 was accessed via <http://eau.sagepub.com> on March 2, 2021
- [7] Mankiw. (2000). *Makroekonomi Edisi ke Enam*, Erlangga, Jakarta.
- [8] Mc. Gee, TG. (1971). *The Urbanization Process in the Third World*. London : G. Bells and Sons.
- [9] Mc Gee, T.G. (1995). *Metrofitting the Emerging Mega-Urban Regions of ASEAN : An Overview in The Mega-Urban Regions of Southeast Asia*. Vancouver: UBC Press, pp. 1-26.
- [10] Iskandar. (2017). Pengaruh Pendapatan Terhadap Pola Pengeluaran Rumah Tangga Miskin Di Kota Langsa. *JURNAL SAMUDRA EKONOMIKA, VOL. 1, NO. 2 OKTOBER 2017, 1(2)*, 127–134.
- [11] Pindyck, R. S., & Rubinfeld, D. L. (2009). *Microeconomía*. DERECHOS RESERVADOS © 2009 por PEARSON EDUCACIÓN, S.A. Ribera del Loira, 28 28042 Madrid (España). <http://web.mit.edu/rpindyck/www> y <http://www.law.berkeley.edu/faculty/rubinfeld>.
- [12] Samuelson, P., dan Nordhaus, (1999) . *Mikro Ekonomi*, Ed. XIV, Erlangga, Jakarta.
- [13] Sukirno, Sadono. (2006). *Makroekonomi Teori Pengantar*. Jakarta: Rajagrafindo Persada.
- [14] Salvatore, D. (1994). *Teori Ekonomi Mikro*. Jakarta: Erlangga.
- [15] Suparyanto. (2014). "Konsep Dasar Pendapatan Keluarga." Retrieved February 25, 2021 (<http://dr-suparyanto.blogspot.co.id/2014/03/konsep-dasarpendapatan-keluarga.html>).
- [16] SMERU. (2012). *Mengintegrasikan Aspek Spasial Kemiskinan ke dalam Perencanaan Spasial Perkotaan: Solusi untuk Mengatasi Kemiskinan Perkotaan*, Catatan Kebijakan, Lembaga Penelitian SMERU Research Institute. www.smeru.or.id/www.fordfoundation.org
- [17] Kostakis, I., Paparas, D., Saiti, A., & Papadaki, S. (2020). Food Consumption within Greek Households: Further Evidence from a National Representative Sample. *Economies* 2020, Vol. 8, Page 17, 8(1), 17. <https://doi.org/10.3390/ECONOMIES8010017>
- [18] Huang, K. M., Sant'Anna, A. C., & Etienne, X. (2021). How did Covid-19 impact US household foods? an analysis six months in. *PLOS ONE*, 16(9), e0256921. <https://doi.org/10.1371/JOURNAL.PONE.0256921>
- [19] Janssen, M., Chang, B. P. I., Hristov, H., Pravst, I., Profeta, A., & Millard, J. (2021). Changes in Food Consumption During the COVID-19 Pandemic: Analysis of Consumer Survey Data From the First Lockdown Period in Denmark, Germany, and Slovenia. *Frontiers in Nutrition*, 8, 60. <https://doi.org/10.3389/FNUT.2021.635859/BIBTEX>
- [20] Xiong, J., Tang, Z., Zhu, Y., Xu, K., Yin, Y., & Xi, Y. (2021). Change of Consumption Behaviours in the Pandemic of COVID-19: Examining Residents' Consumption Expenditure and Driving Determinants. *International Journal of Environmental Research and Public Health* 2021, Vol. 18, Page 9209, 18(17), 9209. <https://doi.org/10.3390/IJERPH18179209>
- [21] Srivastava, S. K., Sivaramane, N., Srivastava, S. K., & Sivaramane, N. (2020). Income-induced effects of COVID-19 on the food consumption pattern of Indian households. *Agricultural Economics Research Review*, 33(Conference). <https://doi.org/10.22004/AG.ECON.310333>

Contribution of Individual Authors to the Creation of a Scientific Article (Ghostwriting Policy)

The authors equally contributed in the present research, at all stages from the formulation of the problem to the final findings and solution.

Sources of Funding for Research Presented in a Scientific Article or Scientific Article Itself

No funding was received for conducting this study.

Conflict of Interest

The authors have no conflicts of interest to declare that are relevant to the content of this article.

Creative Commons Attribution License 4.0 (Attribution 4.0 International, CC BY 4.0)

This article is published under the terms of the Creative Commons Attribution License 4.0

https://creativecommons.org/licenses/by/4.0/deed.en_US