



Determinants of Household Consumption Allocation during the Covid 19 Outbreak in Riau, Indonesia

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Abstract

An pandemic will disrupt consumer income and expenditure and other effects in all expenditure categories. The purpose of the study this to analyze changes in household income and consumption changes during the Covid19 outbreak; analyzing the differences in household consumption in the formal and informal sectors and analyze the determinants of household consumption. This research was conducted in the urban area of Pekanbaru City, Riau Province, Indonesia. The type of data taken includes secondary data regarding the distribution of positive patients with Covid19. Primary data were taken from sample households in urban areas. Collecting data using an interview guide (questionnaire) which contains the identity of the respondent, economic activity, shopping or consumption during the outbreak and outside the epidemic, buying fast food, shopping related to health and the like. The sample was taken from 75 household respondents, including 35 formal sector household respondents and 40 informal worker household respondents in Pekanbaru City. One-way analysis of variance and t test to test differences in income and consumption between time and between groups of respondents. To analyze the determinants of household consumption using ordinary least squares. Result; The study found that after the outbreak through September 2020, the income group of less than 3 million increased in number. During this period, the respondents' average monthly consumption increased, but not significantly. There is a significant difference in monthly income between the period March - September 2019 and the period March - September 2020. The average monthly income of respondents from the informal workers group decreased compared to the previous year. On the consumption side, there was no change between the three periods. The individual variable test shows that only income is the significant independent variable. In the period March to September 2019, the respondent's MPC was 0.499, increasing in the Covid19 outbreak period to 0.525.

Keywords: Epidemic, Household Consumption, Informal Workers, MPC

Introduction

Health has a very important role in creating quality human resources. Poor health conditions will create low quality human resources. In this regard, to achieve sustainable economic development, improvement of the quality of human resources, especially in the health sector, must be preceded. Indonesia in the last two years has experienced health problems that have pushed towards economic problems. An outbreak caused by the coronavirus attacked Indonesia in early March 2020. This disease is generally known as Covid19. This epidemic affects households, especially unexpected health expenditures, reduced functional capacity, and loss of income and productivity.

A plague pandemic will disrupt consumer spending and other effects across all spending categories. Macroeconomic factors generally focus on disruptions to economic capacity, but not on predicting the effects of a pandemic outbreak, which will result from fears of contagion. This research will provide important guidance for policy interventions in the economic field even though the pandemic is more challenging and more complex. The plague pandemic has also caused households to avoid traveling and avoiding public places to reduce the risk of infection and this

consumption disorder has severely affected the economy (Gössling et al, 2020). The allocation of individual expenditures for preventive health needs can be explained based on the basic theory of consumer behavior. Consumers choose the consumption of staple goods by considering the use-value of these goods (Baker et al, 2020). Various studies have been carried out related to individual expenditure also showing various socio-economic factors that affect both generally and specifically (Martin, et al, 2020).

The structure of household expenditure is influenced by several things, including changes in expenditure according to time, differences between tastes, differences in income, and the environment. The available household expenditure behavior must be following the level of income earned and how to distribute it, so that it is not shaken to meet needs (Mardiana et al, 2019). The amount of household expenditure is influenced by the number of household dependents and also the habits of each family in meeting their needs. Current consumption is influenced by previous period consumption, which verifies the consumer has affect lag. During an epidemic, households are more careful and their consumption habits and consumption levels are stable. When consumers decide on current consumption, they cannot get rid of past spending habits

and resident households will continue to maintain existing consumption. The most important factors are disposable income and expectations of expected future income (Arapova, 2018).

The life cycle hypothesis developed by Modigliani emphasizes that income varies systematically over a person's life and that saving causes consumers to shift income from a lifetime when incomes are high to those when income is low. Households plan consumption and savings for the long term by allocating their consumption in the best possible way during their lifetime (Mankiw, 2019). Public consumption decreased after the announcement of the first positive case of Covid-19 and continued to decline after the Indonesian government established a national disaster status. Pandemics also reduce people's income (Widnyana & Widyawati, 2020). The effect of health spending on consumption patterns is likely to create poverty, especially for low-income households. Health expenditures as a burden reduce their basic abilities. Health policies must reform the direct expenditure system that causes economic and social burdens (Esen & Çelik Keçili, 2021).

For this reason, a study is needed that can explain changes in household consumption during the outbreak, both for formal and informal workers as well as the determinants of household consumption during the Covid-19 outbreak. The objectives of this study were (1) to analyze changes in household income and consumption during the Covid19 outbreak and the previous period (three months earlier and the same period in the previous year); (2) to analyze the differences in household consumption of formal and informal sector workers during the Covid-19 outbreak; (3) to analyze the determinants of household consumption during the Covid outbreak19.

Literature Review

Covid-19 is an epidemic that has spread across the country. Many experts study its impact on various aspects of life, including the economy. Studies on the effects of covid on the economy include market instability and change (Mehta et al, 2020), multiple workers and ways of working (Karácsony, 2020), purchasing decisions (Ratten, 2020), consumption habits (Seth, 2020); (Kumar & Abidin, 2020); food preferences (Güney & Sangün, 2021) and several other aspects of the study.

Currently, there have been many studies on the impact of Covid on the economy. However, very few have examined consumption patterns and marginal propensity to consume (MPC). A study in several European countries conducted by Christelis et al. (2020) reduced consumption and income shocks. Karger and Rajan (2020) examined the MPC of people receiving stimulus payments. There has been no research on the impact of Covid on income shocks and a decrease in consumption and its MPC in developing countries, particularly in Indonesia. This article fills in the gaps in the study of the impact of Covid on household consumption in developing countries.

Beyond the public health impacts of global or regional emerging endemic, infectious disease events there are broader socioeconomic consequences that are often not considered in risk or impact assessments. The private sector is affected indirectly by the incidence of this disease. They are lesser-known but effective stakeholders who can provide critical information, resources, and key partnerships to public and private health systems in response to and in preparation for potential infectious disease events and their socioeconomic consequences (Smith et al, 2019). Esen and Çelik Keçili (2021) study implicate unaffordable health care systems by revealing how health costs are associated with reductions in

various areas of household growth. Health-care reform needs to address insufficient public spending on health services and reliance on direct spending creates vulnerability and insecurity.

The main factors that influence and determine the amount of consumption expenditure are disposable income as the main factor, permanent income and income according to the life cycle, wealth, and other determinants such as social factors and expectations about future economic conditions (Samuelson et al, 2020). Referring to the law Engel stated that the income of households that are used for food shopping tends to decrease if his income increases, which means that the lower the person's income, the greater the proportion of the expenditure incurred for the consumption expenditure of food (Sugiarto, & Wibowo, (2020). Patterns of consumption related to income. That means, if income is fixed while consumption is increasing, people should reduce their consumption patterns at a lower rate. If this cannot be achieved, then people will suffer an economic disability. This pattern is also related to family members. The number of family members indicates how much they will spend on their needs. Thus, families with smaller members consume fewer needs than families with larger members.

Disease control and prevention uses the following definition: (i) endemic refers to the persistent presence of a disease or infectious agent in a population within a geographic area; (ii) epidemic refers to an increase, often suddenly, in the number of cases of a disease above the level normally expected in the population in that area; (iii) pandemic refers to an epidemic that has spread across several countries or continents, usually affecting large numbers of people (Moormann, 2020). Covid-19 was first identified in Wuhan, China, in early January 2020. From the information known at this point, some related facts. First, it belongs to the same coronavirus family that caused the Severe Acute Respiratory Syndrome (SARS) outbreak in 2003 and the Middle East Respiratory Syndrome (MERS) outbreak in 2012. Second, the mortality rate (number of deaths relative to the number of cases)), which is estimated not quite right, maybe in the 1% -3.4% range - significantly lower than 10% for SARS and 34% for MERS (Zhu et al, 2020)

The bird flu epidemic is a serious threat to the poultry business. Outbreak awareness, education, and the amount spent on food consumption significantly affect household consumption of poultry products. There is a significant difference between the consumption patterns of poultry products (eggs and chicken) before and during the bird flu outbreak in the study area (Seth, 2020; Deliana, et al, 2021; dan Brandtner, et al, 2021). Health shocks tend to significantly reduce the working day and income of domestic workers in poor countries. The negative impact was higher for a larger health shock. Findings from a review of the impact of health shocks on future losses show a decrease, although some do not affect at all (Ouadika, 2020).

An aging population is not only to promote the elderly population through saving and consumption, they also influence consumer behavior. Older age changes family demographics, it is also to promote the next generation through savings and spending to influence consumer behavior (Travassos et al, 2021). The transformation process in the economy is associated with changes in the way consumption entities function. This influences new household needs, household preferences need satisfaction methods and ultimately translates into consumption levels and structures. Positive qualitative and quantitative changes in food consumption, equipping households with durable goods and as a result of a general modernization of consumption models (Alp & Seven, 2019)

Materials and Methods

This research was conducted in the urban area of Pekanbaru City as the center of the government of Riau Province. The selection of this area is to get a different picture according to the types of formal and informal work so that several variables related to consumption and effects that affect it during the outbreak can be analyzed. The type of data taken includes secondary data regarding the distribution of positive patients with Covid19. Primary data were taken from sample households in urban areas. Collecting data using an interview guide (questionnaire) which contains the identity of the respondent, economic activity, shopping or consumption during the outbreak and outside the epidemic, buying fast food, shopping related to health, and the like. The sample was taken 75 household respondents, including 35 formal sector household respondents and 40 informal worker household respondents in Pekanbaru City.

To analyze changes in household consumption during the Covid19 outbreak, divided into 3 (three) time groups, namely 3 months during the peak of the outbreak (March - September 2020), 3 (three) months before (December 2019, January, and February 2020), and the month of the same period the previous year (March - September 2019). The indicators measured are main income, additional income, and other household income during the outbreak, months before the outbreak, and the same period the previous year. The following indicators are household consumption, including consumption for food, health, and non-food purposes. Changes in the indicators of consumption of consumer goods are products that are sold quickly and at relatively low costs, such as packaged food, beverages, toiletries, over-the-counter medicines, and other consumables.

The test tool used is a one-way analysis of variance (ANOVA), which is used to test the differences between three different periods where only one factor is considered. For example, comparing total income and consumption at three different times. Where the F test formula for one-way ANOVA is (Willard, 2020):

$$F = \frac{[\sum(X_{ij})^2 - (\sum T_j)^2] / (k - 1)}{[\sum \frac{\sum(T_j)^2}{n_j} - \frac{(\sum T_j)^2}{n}] / (n - k)} \quad Eq. (1)$$

Where:

X_{ij} = data in columni, repetitionj

T_j = total column j

k = number of columns

n = number of observations

To analyze the differences in household allocations of formal and informal workers during the Covid-19 period, using t-test, for income and consumption (Willard, 2020):

$$t = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{(n_1 - 1)S_1^2 + (n_2 - 1)S_2^2}{n_1 + n_2 - 2} \left(\frac{1}{n_1} + \frac{1}{n_2}\right)}} \quad Eq. (2)$$

Where:

\bar{x}_1 = average formal sector respondent indicator

\bar{x}_2 = average informal sector respondent indicator

S₁ = formal sector respondent indicator diversity

S₂ = informal sector respondent indicator diversity

n₁ = formal sector respondent sample size

n₂ = number of samples of informal sector respondents.

Independent sample t-test and multiple regression analysis were used to analyze the determinants of household consumption allocation during the Covid19 outbreak. The prediction of the consumption model uses simple and multiple linear regression following the Keynesian MPC model. MPC from Keynes's theory of absolute income is commonly used to predict consumption (Carroll et al., 2017). Our model is given to the allocation of household consumption due to income shocks during the Covid-19 period. Consumption and MPC are determined by income. Consumption is also determined by other predictor variables, namely the head of the household, household size, and age. The regression equation that is commonly used is as follows (Roberts & Roberts, 2021):

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + e \quad Eq. (3)$$

Where:

Y = total consumption (rupiah / month)

X₁ = education level of the head of the household (years spent in school)

X₂ = Household size (person)

X₃ = main household income (rupiah / month)

X₄ = Age of household head (years)

Results and Discussion

Characteristics of Respondents

Age is one of the characteristics that need to be seen. A person's age can reflect one's physical abilities and condition. Age also has a close relationship with performance in the implementation of economic or business activities. The age category of the respondents is divided into 3 categories. Respondents aged less than 30 years were 5 people (6.67%), aged between 30 years to 45 years were 32 people (42.67%). 38 people (50.67%) of the total number of respondents who are more than 45 years old. It can also be seen that the age structure of 30 respondents is that they have a minimum age of 23 years and a maximum age of 58 years. The average age of the respondents was 44.5 years. This also shows that all respondents are of working age.

Table 1: Respondents Age Group

No.	Age	Total	Percentage
1.	<30 years	5	6.67
2.	30 - 45 years	32	42.67
3.	> 45 - 60 years	38	50.67
	Total	75	100.00

Source: Analysis of Research Results, 2020

In this study, the priority is respondents who have or understand income and expenditure in the household to get a picture of the household consumption. The research respondents consisted of two categories of marital status. Marital characteristics can be seen from the marital status table in the table. It can be seen that the marital status of respondents is dominated by the married status of 28 people (93.33%), single parents (widows/widowers) as many as 5 people (6.67%).

Table 2: Marital Status

No.	Status	Total	Percentage
1.	Married	70	93.33
2.	Single parents	5	6.67
	Total	30	100.00

Source: Analysis of Research Results, 2020

The level of education is an aspect that has an important role and has a considerable influence on economic development. Because the level of education will affect the maturity of thought patterns and attitudes. Education and income have a positive correlation. Generally, the better a person's education level, the more income will increase, that's why people are competing to get a higher education. The latest education of the head of the family consists of 5 categories, namely 10 people who graduated from junior high school (13.3%), 30 people graduated from high school (40.00%), 5 people graduated from diploma (6.67%), 23 undergraduate students (30.67%) and as many as postgraduate graduates. 7 people (9.33%). From this data, it can be seen that the education of the head of the family is dominated by high school graduates and the least number of diploma graduates.

Table 3: Education of Head of Family

No.	Education	Total	Percentage
1.	Completed junior high school equivalent	10	13.33
2.	Completed high school equivalent	30	40.00
3.	Completed Diploma	5	6.67
4.	Undergraduate	23	30.67
5.	Postgraduate	7	9.33
	Total	30	100.00

Source: Analysis of Research Results, 2020

The Covid 19 pandemic conditions in the world cause various impacts, ranging from health impacts to affecting economic, social, cultural, and political conditions. From an economic point of view, one of them has an impact on employment status. Many businesses are under pressure, resulting in layoffs. Respondents of this study consisted of two categories, namely working and not working. Respondents who worked as many as 71 people (94.67%) and did not work as many as 4 people (5.33%). Respondents who did not work were due to the direct impact of a government program that imposed large periodic social restrictions (PSBB) including online learning which caused schools and campuses to close. Before the Covid19 they worked in coffee shops and campus canteen businesses.

Types of work are divided into two categories, namely formal and informal jobs. Formal workers include business status with the help of permanent workers and workers/employees/employees, the rest are informal workers. Examples of formal workers are ASNs, accommodation providers, processing industries, and others. Informal workers mean those who are self-employed and are free workers in the agricultural and non-agricultural sectors. Such as street vendors, public transportation drivers, and pedicab drivers. Respondents in this study consisted of 35 people (46.67%) working in the formal sector and 40 people (53.33%) working in the informal sector.

Table 4: Occupation Group

No.	Group	Number	Percentage
1.	Formal	35	46.67
2.	Informal	40	53.33
	Total	75	100.00

Source: Analysis of Research Results, 2020

In addition to having the main income, some respondents also have additional income to support household needs. Increasing needs and prices result in households looking for a various job or business opportunities. Of the 75 respondents studied, 35

households had additional income and 40 respondents (53.33%) did not have additional income.

Table 5: Additional Sources of Income

No.	Additional Sources	Total	Percentage
1.	None	40	53.33
2.	Traders	15	20.00
3.	Home industry	2	2.67
4.	Self-employed	3	4.00
5.	Others	15	20.00
	Total	75	100.00

Source: Analysis of Research Results, 2020

The following table explains that the status of homeownership dominated by households that owned their own houses as many as 60 people (80.00%), followed by renting houses as many as 13 people (17.33%) and two respondents who lived in family-owned houses.

Table 6: Home Ownership

No.	Home Ownership	Total	Percentage
1.	Owned	60	80.00
2.	Renting	13	17.33
3.	Family-owned	2	2.67
	Total	75	100.00

Source: Analysis of Research Results, 2020

The number of family members in the household varies widely, can be seen in Table 7. Categories for the number of family members consist of 3 categories. Where the number of family members is more than 6 people (4.00%). The average number of respondents has several family members of 4 people.

Table 7: Family Size

No.	Family Size	Total	Percentage
1.	≤ 4 people	47	62.67
2.	5 - 6 people	25	33.33
3.	> 6 people	3	4.00
	Total	75	100.00

Source: Analysis of Research Results, 2020

Generally, all household heads work to meet household needs. also, households that have double income, namely husband and wife who work, which is often called double income.

Table 8: Family Members Work

No.	Age	Total	Percentage
1.	None	1	3.33
2.	1 person	10	33.33
3.	2 people	19	63.33
	Total	30	100.00

Source: Analysis of Research Results, 2020

Table 9 presents the main vehicles for daily transportation in the mobility of the respondents. From the table, it can be seen that motorbikes dominate the main vehicle for transportation, as many as 53 respondents (70.67%) of the total respondents. Then followed by the use of private cars as many as 15 people (20.00%). The use of bicycles as a means of transportation was only used by two respondents (2.67%) and two respondents used other transportation tools, namely using a motorcycle taxi and walking.

Table 9: Respondents' Main Vehicle Types

No.	Age	Total	Percentage
1.	Private car	15	20.00

2.	Motorcycle	53	70.66
3.	Bicycle	2	2.67
4.	Others	5	6.67
	Total	75	100.00

Source: Analysis of Research Results, 2020

The outbreak of Covid 19 had various impacts. And public concerns are increasing along with the increase in cases of Covid 19 in Indonesia. The high number of cases of Covid 19 is due to health protocols that have not been maximally implemented, namely maintaining distance, wearing masks, and washing hands, including avoiding crowds. From the survey results, it is known that 97.33% of respondents are worried about the Covid 19 outbreak and only two people (2.67%) are not worried about the Covid 19 outbreak. From the survey results, it is known that all respondents use masks when leaving the house and wash their hands when returning home.

In the condition of Covid 19, the government hopes that the public will comply with health protocols to hinder the development of Covid 19 cases. Health protocol that must be carried out by the public by the Ministry of Health, namely maintaining hand hygiene, not touching faces, applying ethics of coughing and sneezing, wearing masks, maintaining distance, isolation independent, and take care of personal health. In addition to the

Table 10: Average Income Per Month

Income Level	March - September 2019	Dec 2019 - February 2020	March - September 2020	
			People	(%)
≤ 3 million	30	33	40	53.33
3,001 rb - 6 million	25	22	18	24.00
6,001 rb - 10 million	10	10	10	13.33
> 10 million	10	10	7	9.33
Total	75	75	75	100.00

Source: Analysis of Research Results, 2020

The Covid-19 pandemic has suppressed the income of the poor, vulnerable to poverty, and workers in the informal sector who have experienced a decline in income. Based on a survey by the Central Statistics Agency (BPS) as of June 1, 2020, it was noted that as many as 70.53% of people who had a maximum income of IDR 1.8 million per month had decreased. Then 46.77%, people's income in

Table 11: Average Additional Income per Month

Income Level	March - September 2019	Dec 2019 - February 2020	March - September 2020	
			People	(%)
≤ 1 million	7	8	8	28.57
1,001 rb - 2 million	15	15	13	46.43
2,001 - 3 million	3	2	2	7.14
> 3 million	5	5	5	17.86
Total	30	30	28	100.00

Source: Analysis of Research Results, 2020

Additional household income comes from side jobs carried out by family members apart from their regular jobs. The side jobs: motorcycle taxi drivers, trading or selling snacks/shops, entrepreneurship, and others. From the survey results, it is known that 30 households have additional income. Before and after the existence of Covid19, the average additional income did not change much. Before Covid 19, additional income levels of ≤ there were 71 million and after Covid 19 it increased to 8 respondents.

health protocol put forward by the health ministry, to suppress the Covid 19 case, it's also a good idea for people to change clothes when they get home after traveling because the virus can stick to clothes. From the survey results, it is known that 67 respondents (89.33%) changed their clothes upon arrival at home when traveling outside the house and only 8 respondents (10.67%) did not change their clothes when they arrived at the house.

Respondents' Income and Consumption

The average main income of respondents is divided into three time periods before Covid 19 enters Indonesia, namely March-September 2019, the Covid 19 period is rife in China but has not yet entered Indonesia, namely the period December 2019 - February 2020 and the period of data on covid cases 19 in Indonesia. From a study of respondents, during the period March to September 2019, the income group was less than Rp. 3 million as many as 30 people, while the income group of 3 to 6 million rupiahs was 25 respondents. The three months before the outbreak did not have much change in respondents' income. After the outbreak began in Riau until September, there was a change in income groups over Rp. 10 million and the group of Rp. 3 to 6 million experienced a decline the income group of less than 3 million increased in number.

the range of Rp. 1.8 million to Rp. 3 million per month has decreased. Meanwhile, an income of IDR 3 million to 4.8 million affects 37.19% of the population. Furthermore, there were 31.67% of people had an income of Rp. 4.8 million to Rp. 7.2 million, who experienced a decline, then people who had an income above Rp. 7.2 million were 30.34% who experienced a decline.

Meanwhile, additional income 2.001 - 3 million and > 3 million did not change at all, as illustrated in Table 11. Total household income is derived from the main income and additional income. 45 households do not have additional income and 30 households have additional income. From the survey results, it can be seen that after the covid, people's income ≤ 3 million increased, from 22 respondents to 33 respondents.

Table 12: Average Total Income per Month

Income	March - September 2019	Dec 2019 - February 2020	March - September 2020	
			People	(%)
≤ 3 million	22	25	33	44.00
3,001 rb - 6 million	30	28	23	30.67
6,001 rb - 10 million	13	12	12	16.00
> 10 million	10	10	7	9.33
Total	75	75	75	100.00

Source: Analysis of Research Results, 2020

This shows that the Covid 19 pandemic has brought the economy into contraction. There was a weakening of people's purchasing power because their income was decreasing. Likewise, the income level of 3,001 rb - 6 million experienced a decrease in the level of

income from 30 people to only 23 people, for the income category of 6,001–10 million experienced a slight change in income levels. Total household income is dominated by income levels of ≤ 3 million. For more details, see Table 12.

Table 13: Average Total Consumption per Month

Consumption Rate	March - September 2019	Dec 2019 - Feb 2020	March - September 2020	
			People	(%)
≤ 3 million	28	28	30	40.00
3,001 rb - 6 million	27	27	28	37.33
6,001rb - 10 million	13	12	11	14.67
10 million	7	8	6	8.00
Total	75	75	75	100.00

Source: Analysis Research, 2020

On the consumption side, there are no significant changes in the third period. During the period from March to September 2019, the average monthly consumption of the most respondents was in the group of less than Rp. 3 million rupiahs. The only change was the reduction in the number of respondents in the group with an income above 6 million rupiahs to 10 million rupiahs.

Change in Total Income and Consumption

Income

Overall, the average income of the community per month in the period March 2019 to September 2020 did not change much. During the period March - September 2019, the average monthly income of the community was Rp. 7,462 million and decreased slightly in the period December 2019 - February 2020 to Rp. 7,443 million. However, during the Covid19 outbreak period (March - September 2020) it continued to experience a decline to only Rp. 6,640 million. Riau's economy based on the amount of Gross Regional Domestic Product (PDRB) based on the prevailing prices for Q2-2020 reached IDR168.10 trillion and at constant prices 2010 reached IDR117.56 trillion. Compared to the previous quarter, it grew minus 4.49 percent and during the first semester of 2020, it grew minus 0.50 compared to the first semester of last year.

Average 2019 and 2020 earnings for the period March to September decreased significantly with a test rate of 5% (t-statistic = 1,920). This change shows that the step for flattening the curve has an impact on economic activity and employment in various sectors. This is indicated by a sharp decline in economic performance; disruption in consumption, slowing investment, and contraction of exports and imports, in addition to that, the economic growth of Riau Province is also experiencing a slowdown.

The decline in economic activity in the three months before the outbreak and during the outbreak was also significant from Rp. 7,461 million to Rp. 6,660 million, with a t-statistic value of 1.885. In 2020, almost all components of consumption in Riau will experience a decline, except for exports. This phenomenon is due to low budget absorption at the local government level. Even though the Directorate of Treasury of the Ministry of Finance has

realized DIPA faster than last year and also the realization of the distribution of transfers to regions and Village Funds (TKDD) is faster than the same period the previous year. In addition to budget savings in the middle of the year, there is a reduction in official travel as well as meetings and other meetings. Compared to government spending the previous year, the decline was -15.95% and when compared to 2019, it decreased slightly, only -2.53%. There is a lag between the distribution of transfers to regions and village funds with local and village government spending which also causes consumption spending in Riau to experience a decline in this Q.

Consumption

On the consumption side, there has been no change between the three periods. From March to September 2019, the average monthly consumption of respondents was Rp. 5,574 million. Due to inflationary pressures and increasing demand, the period December 2019 to February 2020 saw a slight increase in the total consumption of respondents, to an average of Rp. 5,730 million per month. When the Covid19 outbreak period broke out, the average monthly consumption of respondents increased, but not significantly to Rp. 5,830 million.

The existence of a pandemic cannot be denied that it has an impact on economic conditions and people's behavior, which in turn affects people's consumption patterns. This of course also affects the level of business sales. Several product categories have experienced a drastic increase in demand, while several other categories have experienced a decrease. Despite the impact on the economy, individual interviews show that respondents are optimistic about the fast economic recovery. On the other hand, consumers remain cautious in their spending. Many consumers also turn to online platforms to buy various needs. This shift to online sales channels is predicted to continue after the pandemic has subsided.

The impact of the Covid-19 pandemic on people's economic conditions has made consumers more careful in shopping. The average consumer reduces spending in all product categories except for household necessities such as groceries, household supplies, personal care products, and home entertainment. In addition, people have also started to have new habits through

digital activities and minimal touch, such as online streaming, shopping for raw materials, and buying food from restaurants through online ordering and delivery. Consumption/expenditure can be defined as part of household income which is used to finance the purchase of various services and other needs. The amount of consumption always changes according to the ups and downs of income, if income increases, consumption will increase. Conversely, if income falls, consumption will decrease. Keynes emphasized that for an economy, the level of consumption expenditure by households varies directly with the disposable (ready to consume) income of the household, in other words, income greatly affects the size of consumption/expenditure.

From the results of the BPS survey (2020), respondents who stated that their spending had increased since Covid-19 occurred was 59.96 percent, who stated that their expenses remained at 26.55 percent, and those who stated that their expenses had decreased by 13.50 percent. It is very different when compared to the amount of income which has fallen more since Covid-19. The increase in spending caused by restrictions on people's activities outside the room and staying at home led to an increase in consumption of several types of goods/services.

Differences in Income and Consumption between Groups

Formal Workers

Following the occupational grouping of the head of household in the community, respondents in the formal occupation group did not have a significant difference between the period income a year before the outbreak, three months before the outbreak, and when the Covid19 outbreak took place. The analysis of variance (ANOVA) test resulted in a value t_{stat} worker's instant a very low value (0.001). Testing between periods also did not find differences in the income of respondents from this formal workgroup, both for the period March - September 2019 with March - September 2020 and the period December 2019 - February 2020 with the period March - September 2020. Attention to the 'half' middle class is necessary given because it has a long-term impact on the economy going forward. If this group's economy crashes, it will take longer for them to recover later. The recovery of the middle class will take longer, the problem is that the national economy of Indonesia will not grow if this class does not rise. A further danger is that Indonesia's hopes of moving up to the upper-middle-income class are getting backward.

The consumption of respondents from the formal group of workers is not like a stable income. Consumption during the Covid19 outbreak has increased. In the period March - September 2019, the average monthly consumption of formal worker respondents was Rp. 6,888 million. Along with changing prices and increasing needs, in the period December 2019 to February 2020, there was a change in the average consumption of respondents to Rp. 7,237 million per month. Furthermore, after the Covid19 outbreak took place, the consumption of respondents to formal workers was getting bigger, with an average of Rp. 7,633 million. Testing of variance analysis (ANOVA), the three periods did not have a significant difference with the F_{value} of 0.059.

The Covid19 outbreak has depressed people's purchasing power. Now, consumption during the pandemic is dominated by middle-class people who have regular incomes. This group is now holding on to consumption while the purchasing power of the marginal class is very weak due to pressure from Covid-19. Public consumption during the pandemic fell, causing many retail stores

to close. Meanwhile, household consumption will continue to be the main driver of the economy. When viewed from the differences between periods, there is a significant increase between the period March - September 2019 and 2020 from the formal workers' respondent group. There is a difference in the consumption of formal worker respondent groups between the two periods, with a value t_{stat} of -2.045. Meanwhile, for the period December 2019 - February 2020, there was no significant difference in the average consumption per month with a value t_{stat} of 1.185.

Informal

The majority of workers in the informal sector have a higher exposure to occupational safety and health risks, there is no proper protection. Their chances of getting sick, having an accident, or dying will increase. COVID-19 increases these risks. If they fall ill, most workers have no guaranteed access to health care and no income security through sickness benefits or work accidents. If they are unable to access health care, the virus will spread more widely, with fatal consequences. If they can access health care, many of them will have to pay for themselves which will force them to go into debt or sell productive assets which can plunge them into deeper poverty. Testing the analysis of variance (ANOVA), simultaneously there is no significant difference between incomes a year before the outbreak, the pre-outbreak period, and during the Covid19 outbreak with an F -value of 1.054. The average income per month of the respondent a year ago was Rp. 5.090 million, slightly decreased in December 2019 - February 2020 to Rp. 5.053 million.

Given that informal sector workers do not have savings or another financial cushion. Most of them may have no choice but to use business capital for consumption needs. As a result, they are forced to close their informal businesses temporarily or even permanently, leading to job losses and a spike in poverty. Loss of income and deeper poverty can lead to an increase in child labor and a decline in school enrollment rates. This crisis is likely to have long-term effects on the economy. Expected to be slow to recover and patchy. Informal workers have no substitute income, insufficient social protection. Many of them earn their living as micro-business owners, self-employed or informal workers. Some small and medium enterprises can also fall into the informal sector. After the PSBB was relaxed, there was still uncertainty about whether informal workers would be reinstated, as the number of infection cases started to increase again. This uncertainty will make consumers more cautious and thrifty and companies will invest less. The combined effect disrupts the structure of the economy, resulting in lower levels of demand, production, and employment, as well as a further contraction of the formal economic sector. The next possibility will result in low growth, especially in the informal economy.

Testing the difference in average income per month between the period March - September 2019 and the period March - September 2020 found a t_{value} of 1,830, which means that there is a significant difference between the two periods. Compared to the same time last year, the average monthly income of respondents from the informal workers group fell from Rp. 5.090 million to Rp. 3,613 million. In Pekanbaru City, during the implementation of Large-Scale Social Restrictions (PSBB), many informal workers were forced to stop their various activities. The implementation of large-scale social restrictions (PSBB) adds to the economic difficulties. The impact is very pronounced for small or micro-businesses. They are threatened with closure, because the decreasing income is inversely proportional to the increasing expenditure.

When compared with the pre-outbreak period, there was also a significant difference with the $t_{\text{valuestat}}$ of 1.789. At the start of the outbreak, a human movement was very limited, because of concerns about the spread of the virus. Saving the health of the population has an impact on the household economy, especially those with irregular income and informal businesses. The income of informal workers continues to fall sharply. Therefore, the short-term solution is to provide a safety net by increasing social assistance (bansos), both through the national and local government budget (APBN and APBD).

The Determinants of Household Consumption Allocation

Analysis was carried out on various factors affecting the allocation of household consumption during the Covid19 period with data from 75 respondents. Formation with 4 predictor variables produces a single regression equation. Simultaneously, all variables, age, family members, years of schooling, and total income have a significant effect with an F-value of 46,962. The variation of the independent variables contributed to the variation in household consumption of around 86.38 percent and the other 13.62 percent was influenced by other variables that were not included in the equation. The regression results of determinants of household consumption during the Covid19 period are as follows:

Table 14: Regression Determinants of Household Consumption Allocation

Variable	Coefficient	t_{Stat}
Constant	-3429.560	-1.328
Age	47.551	0.991
Family members	238.512	1.528
Years of education	170.597	0.506
Total income	0.464	5.901
Adjusted R ²	=	0.8638
F	=	46.9619

Source: Analysis of Research Results, 2020

Testing of the independent variables included in the equation, it is known that only the total income variable has a significant influence with a t -statistic value of 5.901. While other variables, age, family members, and years of education do not have a significant effect, where the t -statistic value is low.

Marginal Propensity to Consume

To obtain an overview of changes in the effect of income on consumption, Keynes's consumption equation with his absolute income hypothesis is used. A simple regression equation is used to generate a consumption equation for each observation period so that the consumption equation can be compared.

Table 15: Marginal Propensity to Consume by Period

Period	Constant	Coef	R ² Adj.	t-statistic
from March to September 2019	1850	0.499	0.823	11.651
Des 2019 - Feb 2020	2080	0.490	0.805	10.989
from March to September 2020	2344	0.525	0.862	13.481

Source: Analysis Research, 2020

The regression equation is simple with consumption as the dependent variable and income as a variable predictor, producing a

constant (autonomous consumption) and the regression equation coefficient (marginal propensity to consume or MPC). In the period March to September 2019, the respondent's MPC was 0.499, which means that the desire to consume is still less for their income than for meeting other needs. However, this does not mean that the MPS is greater, although in theory, the equation will give rise to $MPS = 1 - MPC$. In the period December 2019 - February 2020, there were not many changes in the MPC of respondents. The changes that were seen during the Covid19 outbreak period took place, where the MPC increased to 0.525. From the explanation above, during the Covid19 outbreak, there were changes in public consumption, but the changes were not significant. Significant changes have occurred in income, especially for groups of informal workers who are vulnerable to the Covid19 outbreak and the implementation of the PSBB. This situation causes the desire to consume society to increase with diminishing purchasing power.

Conclusions

After the outbreak began in Riau until September, the income group of less than 3 million increased. During the outbreak of the Covid19 pandemic, the average monthly consumption of respondents increased, but not significantly. When viewed from the differences between periods, there was a significant decrease between March - September 2019 and 2020 from the formal worker group of respondents. There is a significant difference in monthly income between March - September 2019 and the period March - September 2020. Compared to the same time last year, the average monthly income of respondents from the informal worker's group decreased. On the consumption side, there was no change between the three periods. From March to September 2019, and when the Covid19 outbreak period broke out, the average monthly consumption of respondents increased, but not significantly. The individual variable test shows that only income is the significant independent variable. From March to September 2019, the household MPC was 0.499, increasing the Covid19 outbreak period to 0.525. People who work in the informal sector are most affected by Covid19. Pekanbaru City Government needs to identify households affected by Covid19 but not included in PKH and not beneficiary groups (KPM), not cash assistance recipients and productive social assistance. Local governments must fill the void in people who do not receive fiscal stimulus from the central government.

Social lockdowns and social distancing disrupt the socioeconomic of households (starting from income to consumption). Government support through social spending is needed to cover lost income. People must create a new economy by utilizing online-based business platforms, communities and using networks of friendship and kinship to support the family economy. The small MPC, due to its precautionary motive for future income, reduces total national consumption. It is necessary to increase national and local government spending to replace the low household MPC.

Data Availability

The data can be found by contacting the researchers via mardiana@lecturer.unri.ac.id

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Statement of Competing Interests

The authors have no competing interests’.

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