ANALYSIS OF MSME INCOME IN MEDAN CITY DURING THE COVID-19 PERIOD WITH MULTIPLE LINEAR REGRESSION METHODE

Nila Sari[1], Dwi Tartila [2], Jalaluddin Mahally[3], Khairul Purqom[4]

Department of Mathematics, UIN Maulana Malik Ibrahmim Malang

Article Info

ABSTRACT

Micro, Small and Medium Enterprises (MSMEs) are an element of the phenomenon in today's economic world. With a capital that is not too large, you can start a business according to the desired goals. However, there are problems when operating whether MSMEs can survive and develop or can compete with large industries. Especially at this time around the world, being hit by the infectious disease covid-19 which has developed in 2020. The purpose of the study is to find out whether there is an influence from the development of covid-19 in the city of Medan on the income of MSMEs in the city of Medan. Data collection was carried out by interviewing several MSMEs around the city of Medan and taking the amount of data on Covid patients from the Medan City Government website, the Task Force for the Acceleration of Covid-19 Handling and the Medan City Health Office. To analyze the data, this research uses multiple linear regression analysis to see if there is an influence from Covid-19 on the development of Micro, Small, and Medium Enterprises in Medan City. The results of this study indicate that there is no significant effect of covid-19 between MSME income before the pandemic and the number of Covid-19 sufferers on MSME income when the pandemic increases.

Corresponding Author:

Nila Sari
Department of Mathematics,
UIN Maulana Malik Ibrahmim Malang

Email: nsari4826@gmail.com

1. INTRODUCTION

At the beginning of 2020, the world hit by a new virus, namely the coronavirus or what we often call covid-19. Covid-19 is a contagious disease that is caused when we cough or sneeze then we hold something and then their hands touch the object and touch their nose, mouth or eyes then they are exposed to covid-19. Many people have been exposed to COVID-19, especially in the city of Medan. The more people who are exposed to the virus, the government makes a policy where all activities are carried out at home. The public is advised to stay away from crowded places for a while so that more people do not get infected with the virus.

The pandemic has an impact on various sectors of the economy that we do not feel personally but globally. The IMF (International Monetary Fund) said the global economy would experience minus 3%. In

Indonesia itself, the pandemic has had a significant impact on various sectors, including the tourism sector, the trade sector, including Micro, Small and Medium Enterprises (MSMEs). several areas of business that impact employees being laid off. The OECD (2020) states that currently MSMEs are experiencing an economic crisis due to the Pandemic-19. The crisis caused by the Covid-19 pandemic will continue to affect MSMEs. The massive decline in MSMEs has had a negative impact on the economy and global economic growth. The decline in the financial condition of MSMEs will have an effect on the banking sector.

MSMEs are individual businesses and or individual business entities that meet the criteria for Micro Enterprises as regulated in this law. Micro-enterprises are businesses that employ less than 5 people, including unpaid family workers. Small Business is a business that has a workforce of up to 19 people. In Indonesia, there are many MSMEs, so they need special attention from the government because the MSME sector itself plays an important role in the national economy. In general terms, micro, small and medium enterprises (MSMEs) are businesses that produce goods and services using the main raw materials based on the utilization of natural resources, and traditional works of art from the local area. The characteristics of micro-enterprises, the types of business goods are not always fixed, can change at one time,.

We can set up our business with not enough capital with minimal labor. With the existence of MSMEs, we can create jobs even though the profits we get are not large but reduce the unemployment rate in Indonesia.MSMEs provide income for the country in the form of foreign exchange. The MSME market does not only cover the national scale but also covers the international scale. MSMEs are beneficial in the distribution of the community's economy. MSMEs have many locations in various places, including even remote areas. able to assist MSME actors in dealing with the problem of increasing income during the pandemic with the strategies provided.

Weak business network and market penetration capability. Small businesses which are generally family businesses have a very limited business network because the quality of the products produced is less competitive. Limited business facilities and infrastructure due to lack of information related to advances in science and technology. Currently and in the future the international environment will begin to change rapidly. Moreover, with the development of Information Technology such as the internet, satellite communication, information from one country to another can move in an instant. Because of this, the acceleration of technology can be felt in economic life, finance and telecommunications services. However, the problem is, there are still a few MSMEs that use technology to increase their business opportunities. Weak access to technology results in weakening business opportunities. The existence of globalization which makes competition increase, including in obtaining resources.

Creating a program from a local government work unit is a way to solve the problem by providing knowledge and information to micro, small and medium enterprises through training, coaching, and monitoring activities. The quality of human resources shows that the ability and creativity of MSME actors owned by each individual can be developed. The wealth of existing natural resources can also be a supporting factor, by knowing the limits of the use of available natural resources, the development strategy of MSME actors must pay attention to policies on the use of natural resources needed in an industry. Teaching MSMEs to sell online, especially in a situation where selling online can increase MSME income.

There are several research objectives, namely to find out whether there is a significant influence on the development of Covid-19 cases in Medan City on the income of MSMEs in Medan City. That is by using the Multiple Linear Regression method where later we can find out whether there has been a drastic change or no change in the income of MSMEs.Analyzing how the impact of covid-19 on the income of MSMEs in the city of Medan during the pandemic.

2. RESEARCH METHODE

This research was conducted in MSMEs in Medan City and this type of research is quantitative by using a study based on the philosophy of positivism, to examine certain populations and samples by collecting data using research instruments, quantitative data analysis that tests the established hypotheses.

The samples used in this study were some of the MSMEs in the city of Medan. Our data collection is by conducting interviews with several MSMEs around the city of Medan. After conducting interviews, we compiled them by making tables so that they were arranged neatly, so that we could draw conclusions about the problems faced. The population in this study is the overall income of Micro, Small and Medium Enterprises in Medan City. This research is related to the average income of Micro, Small and Medium Enterprises before the pandemic and during the pandemic so that we can find out whether or not there is an effect of this pandemic on the income of MSMEs, whether there is a decrease or no effect at all.

Table 1. Income of some MSMEs in Medan City

Business Name	Average Earnings Before the Pandemic Rises	Average Income During the Pandemic Rises
Ita Grocery Store	IDR 6,000,000	Rp 5,900,000
Rizky Tire Workshop	IDR 2,500,000	IDR 1,500,000
Ice Kolding	IDR 3,500,000	IDR 2,500,000
Usnan gas base	IDR 4,500,000	IDR 3,000,000
Barokah Meatballs	IDR 9,000,000	IDR 4,500,000

Table 2. Number of Covid-19 Patients in Medan City

No	Month	Number of Covid-19 Patients in Medan City
1	August	1,756
2	September	1,867
3	October	1,401
4	November	1.027
5	December	868

This research was conducted in the city of Medan. The reason the researchers conducted this research is because Medan in the midst of a pandemic has implemented PSBB and has had a drastic impact on the income of MSME actors themselves. The source of the data comes from the results of direct interviews with MSMEs in the city of Medan and the information comes from publications that contain documents, reports, books, and so on related to this research.

After all the required data has been collected, it is necessary to carry out data analysis. The data analysis techniques or methods used in this study include: multiple linear regression analysis which includes correlation analysis, coefficient of determination and hypothesis testing with t-test where the data will be processed by using SPSS version 23.

1.   Multiple Linear Analysis

Multiple linear regression is an equation model that explains the relationship of one dependent variable/response (Y) with two or more independent variables/predictors (X1, X2,...,Xn). Multiple Linear Regression Equation is a form of linear regression equation that describes the functional relationship linearly between several independent variables with only one dependent variable. Multiple linear regression analysis serves to find whether or not there is an influence of two or more independent variables (independent variable or X) on the dependent variable (the dependent variable or Y), to obtain more accurate and significant results and facilitate the calculation process, the multiple linear regression equation converted into the following form :

$$y = a + b_1 x_1 + b_2 x_2 + \cdots + b_n x_n + \text{e}$$

2.   T Uji test

The t test is used to see the significance of the independent variable (X) on the dependent variable (Y) individually. The purpose of testing the partial regression coefficient is to find out whether the partially formed regression model equations the independent variables (X1 and X2) have a significant effect on the dependent variable (Y). In testing the hypothesis, we must first know the basis for making decisions in the t-test. In this case, there are two references that are used as the basis for decision making, first by looking at the significance value (Sig), secondly comparing the t-count values correctly.

3.   RESULT AND ANALYSIS

Based on the interpretation criteria to determine the closeness of the relationship or correlation between these variables, the following correlation coefficient values are given as a benchmark.

Table 3. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,854a	,730	,460	1.2730

a. Predictors: (Constant), Number of Covid-19 sufferers in Medan City (X2), MSME income before the pandemic increased (X1)

b. Dependent variable: MSME income during the pandemic increases

The "Summary" table provides information about the coefficient of determination, namely the contribution or contribution of the influence of the MSME income variable before the pandemic and the number of Covid-19 sufferers simultaneously (together) on the MSME income variable when the pandemic increases.

Based on the interpretation criteria to determine the closeness of the relationship between variables, the results obtained that the close relationship between MSME income before the pandemic developed (X1) and the number of Covid-19 sufferers in the city of Medan (X2) on MSME income when the pandemic increased (Y) showed a strong and positive degree because the value is in the number 0.8 to 1 or 100 percent.

This means that there is a strong influence on MSME income before the pandemic develops (X1) and the number of patients with COVID-19 in the city of Medan (X2) on MSME income during the pandemic (Y). The result of R^2(RSquare) adjusted is 730 (73.0%), this shows that 73.0% of income variables when the pandemic increases are influenced by MSME income before the pandemic develops (X1) and the number of Covid-19 sufferers in the city of Medan (X2). While the remaining 23% is influenced by other variables outside the model.

1. F Test (Simultaneous Test)

Table 4. ANOVA

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8,767	2	4,383	2,705	,270b
	Residual	3,241	2	1,621		
	Total	12.008	4			

a. Dependent Variable: MSME income during the pandemic increases (Y)

b. Predictors: (Constant), Number of patients with covid-19 in Medan City (X2), MSME income before the pandemic increased (X1)

Based on the table data above, the value of Fcount is 2.705 < Ftable of 6.94 then For Fcount < Ftable then H0 is accepted and H1 is rejected, meaning that simultaneously there is no real effect between MSME income before the pandemic and the number of Covid-19 sufferers on MSME income during the pandemic. So that the income of MSMEs before the pandemic increases and the number of patients with COVID-19 together (simultaneously) does not have a significant effect.

2. T Uji test

The t-test is used to determine whether or not there is an influence between the independent variable of MSME income before the pandemic (X1) and the number of covid-19 sufferers in the city of Medan (X2) on the dependent variable of MSME income when the pandemic increases (Y) individually with the level of confidence, namely:

Table 5. Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-3,129	3,838		-,815	,501
	MSME income before the pandemic increased (X1)	,734	,320	1.073	2,294	,149
	Number of Covid-19 sufferers in Medan City (X2)	,002	,002	,523	1,119	,380

a. Dependent Variable: MSME income during the pandemic increases (Y)

1. Partial t-test (MSME Income Before the Pandemic Increases)
   Based on the comparison of the value of tcount with ttable, it is known that the t-count of the MSME Income variable before the pandemic increased was 2.294. Because the value of t arithmetic is 2.294 < t table 4.3026, it is concluded that H1 or the first hypothesis is rejected, which means that there is no effect of MSME income before the pandemic increases (X1) on MSME income when the pandemic increases (Y).
2. Partial t test (Number of Covid-19 Patients in Medan City)
   Based on the comparison of the value of tcount with ttable, it is known that the variable t-count of the number of Covid-19 patients in the city of Medan is 1.119. Because the t arithmetic value is 1.119 < t table 4.3026, it is concluded that H1 or the first hypothesis is rejected, which means that there is no effect on the number of COVID-19 sufferers in Medan City (X2) on MSME income when the pandemic increases (Y).

4. CONCLUSION

There is no real effect between MSME income before the pandemic and the number of Covid-19 sufferers on MSME income during the pandemic. So that MSME income before the pandemic increased and the number of Covid-19 sufferers together (simultaneously) had no significant effect.

Based on the comparison of the value of tcount with table, it is known that the t-count of the MSME Income variable before the pandemic increased was 2.294. Because the value of t arithmetic is 2.294 < t table 4.3026, it is concluded that H1 or the first hypothesis is rejected, which means that there is no effect of MSME income before the pandemic increases (X1) on MSME income when the pandemic increases (Y).

Based on the comparison of the value of tcount with ttable, it is known that the variable t-count of the number of Covid-19 patients in the city of Medan is 1.119. Because the t arithmetic value is 1.119 < t table 4.3026, it is concluded that H1 or the first hypothesis is rejected, which means that there is no effect on the number of COVID-19 sufferers in Medan City (X2) on MSME income when the pandemic increases (Y).

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