



FACTORS AFFECTING THE INCOME OF MSMEs IN KLATEN DISTRICT BEFORE AND AFTER THE COVID-19 PANDEMIC

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ABSTRACT

This study aims to determine the effect of capital, labor, government assistance, and technology on the income of MSMEs in the Klaten Regency before and after the Covid-19 pandemic. Moreover, to analyze the difference in MSMEs income before and after the pandemic. The sample used in this study was 100 respondents using the purposive sampling technique. The primary data used was a questionnaire. The analysis technique used is multiple linear regression with income as the dependent and four independent variables which are capital, labor, government assistance, and technology. This research indicates a positive and significant effect of capital, labor, and technology variables on MSMEs' income before the pandemic, while the government assistance variable is insignificant. Moreover, capital and labor variables have a positive and significant effect on MSMEs income after the pandemic, while the government assistance and technology variables are not significant. In addition, the results of the study also show that there is a significant difference between MSMEs income before the pandemic and after the pandemic. MSMEs income before the pandemic was higher than after the pandemic.

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1. INTRODUCTION

Micro, Small, and Medium Enterprises (MSMEs) are essential in economic development (Tambunan, 2011). MSMEs development is one of Indonesia's priorities for national economic development (Juminawati et al., 2021). The role of MSMEs in terms of resilience, contribution, and existence continues to increase in supporting the national and regional economy from year to year. According to data from the Indonesian Ministry of Cooperatives and MSMEs (Kemenkopukm, 2019), the number of MSMEs in Indonesia has continued to increase over the past five years. In 2015, there were 59,262,772 business units, which then continued to increase until 2019, namely 65,465,497 business units with an average growth of 2.5 percent. MSMEs also make an immense contribution to Indonesia's GDP and workforce (Adrian, 2019). The contribution of MSMEs to GDP is still fluctuating. However, its contribution to labor absorption is quite significant. In 2016 and 2018, MSMEs were able to absorb 97 percent of the workforce.

Central Java Province is one of the provinces in Indonesia that has successfully developed MSMEs and continues to strive to develop MSMEs. The number of MSMEs in Central Java continues to increase every year. One of the areas in Central Java that has the potential for MSMEs development is Klaten Regency. The industrial sector in Klaten has excellent potential to be developed, especially in its MSMEs. According to data from BPS (2017) the number of MSMEs in Klaten Regency in 2012-2017 continued to increase. An increase in the number of workers in Klaten Regency also balances the increase in the number of MSMEs. The Covid-19 pandemic has caused almost all MSMEs in Indonesia to experience a decline in their business income (Singandaru, 2021), including MSMEs in Klaten Regency. According to Dahiri (2020), the MSMEs sector was hit hard by restrictions on economic and social activities. During the Covid-19 pandemic, due to various reasons related to declining purchasing power, low market share, and other obstacles in the process, several MSMEs did not carry out business activities as usual and were even forced to stop temporarily.

Several MSMEs in Klaten Regency faced various problems, including capital, labor, and technology. Due to declining sales, the Covid-19 pandemic caused several MSMEs to have difficulty obtaining capital to run their businesses. In addition to experiencing problems with capital, MSMEs experienced problems with their workforce. The decline in performance from the demand side (consumption and purchasing power of the community) impacted the workforce's supply side, namely layoffs (Termination of Employment).

Facing the economic impact of the pandemic, the government has created and developed various policies to protect and restore MSMEs. The government issued a credit restructuring policy to provide relief to pay debt installments from Banks/Leasing. The government has also issued a policy to credit working capital for MSMEs affected by the Covid-19 pandemic in Klaten Regency. In addition, the government also provides support for training in the use of digital technology for MSMEs in dealing with the impact of the pandemic. However, some MSMEs still need to improve their use of this technology. The impact of the Covid-19 pandemic, which caused changes in the factors that influence MSMEs income, namely capital, labor, government assistance, and technology, prompted researchers to conduct further research on the factors that influence MSMEs income before and after the pandemic in Klaten Regency.

2. RESEARCH METHODS

This study was conducted to analyze the effect of capital (K), labor (L), government assistance (G), and technology (T) on the income of MSMEs (Y) in Klaten Regency before and after the Covid-19 pandemic, as well as to determine the differences in MSMEs income before and after the Covid-19 pandemic. This study uses primary data obtained directly from distributing questionnaires or interviews with MSME actors in the Klaten Regency affected by the Covid-19 pandemic. The researcher used a sampling technique using the Rao's formula to determine the number of samples to be used.

$$n = \frac{z^2}{4(\text{moe})^2} \dots\dots\dots (1)$$

Where as:

n = Number of samples

z = Normal distribution level at a significant level of 5% = 1.96

Moe = Margin of error, namely the maximum level of sampling error that can still be tolerated or desired at 10% or 0.10

So through the formula above, the sample for this study was obtained, namely:

$$n = \frac{Z^2}{4(\text{moe})^2}$$

$$n = \frac{1,96^2}{4(0,05)^2}$$

$$n = 96,04$$

From the calculation above, the number of samples obtained was 96.04. to anticipate questionnaires that cannot be used in research or data processing, the sample was rounded up to 100 respondents.

This study used multiple linear regression analysis methods to determine the effect of capital, labor, government assistance, and technology variables on MSME income before and after the pandemic. Furthermore, it uses the independent sample t-test to determine the difference in MSME income before and after the Covid-19 pandemic. Before the regression estimation, several tests must be carried out first, namely the validity and reliability test of the data using Likert scale measurements and the classical assumption test (Ghozali, 2009). Therefore, the empirical equation model of this study can be written as follows:

$$Y = f(K, L, G, T) \dots\dots\dots (2)$$

Then an econometric model was formed with the following equation:

$$\text{Before the pandemic: } Y = \alpha_0 + \alpha_1K + \alpha_2L + \alpha_3G + \alpha_4T + \mu \dots\dots\dots (3)$$

$$\text{After the pandemic : } Y = \beta_0 + \beta_1K + \beta_2L + \beta_3G + \beta_4T + \mu \dots\dots\dots (4)$$

Where as:

- Y : MSMEs Income
- K : Capital
- L : Labor
- G : Government Assistance
- T : Technology
- α_0 : Constant before
- β : Constant after
- $\alpha_1, \alpha_2, \alpha_3, \alpha_4$: Coefficient before
- $\beta_1, \beta_2, \beta_3, \beta_4$: Coefficient after
- μ : Interfering variable

The hypotheses in this study are as follows:

- H1: It is suspected that there is a difference in MSMEs income before and after the Covid-19 pandemic.
- H2 : It is suspected that the variables of capital, labor, government assistance, and technology had a significant effect on MSMEs income before the Covid-19 pandemic.
- H3: It is suspected that the variables of capital, labor, government assistance, and technology have a significant effect on MSMEs income after the Covid-19 pandemic.

3. RESULTS AND DISCUSSION

3.1. RESULTS

The first analysis is independent sample t-test. This difference test aims to determine the difference in MSMEs income in Klaten Regency before and after the pandemic. The results of the independent sample t-test of the difference in MSMEs income before and after the pandemic can be seen in the following table:

Table 1. Independent t-Test Results

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
MSMEs Income	Equal variances assumed	9.556	.002	3.407	198.00	.001
	Equal variances not assumed			3.407	164.59	.001

Source: Processed Data (2021)

The independent sample t-test output results can be seen in the MSMEs income variable on the table 1. In the t-test for the Equality of Means row, the t value is 3.407, df = 198, with a probability of 0.001 (Sig.). Because the probability (Sig.) 0.001 < 0.05, H0 is rejected, and H1 is accepted. Moreover, because the alpha level is 5%, the t-table value is 1.972, so the t-count value is 3.407 > t-table 1.972. This means that at a confidence level of 95%, it can be concluded that there is a difference in MSMEs income between before and after the Covid-19 pandemic. It is proven that the income of MSMEs in Klaten Regency before the pandemic increased more than the income of MSMEs after the pandemic.

The second analysis is determination of MSMEs income before the pandemic. Multiple linear regression using the Ordinary Least Square (OLS) method was carried out to analyze the effect of capital, labor, government assistance, and technology on MSMEs income before the pandemic in Klaten Regency. The results of the multiple linear regression analysis before the pandemic are as follows:

Table 2. Regression Results Before the Pandemic

Models	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
	B	Std. Error			
(Constant)	-5798444.449	2633036.481		-2.202	.030
Capital	1.310	.031	.942	42.450	.000
Labor	257925.527	113580.832	.051	2.271	.025
Government Assistance	148960.184	88911.554	.031	1.675	.097
Technology	224608.228	107842.878	.041	2.083	.040

Source: Processed Data (2021)

Based on the results of the multiple linear regression analysis shown in the table 2 above, the results of the regression equation before the pandemic are as follows:

$$MSMEs = -5798444.449 + 1.310_{CAPITAL} + 257925.527_{LABOR} + 148960.184_{GOVERNMENTASSISTANCE} + 224608.228_{TECHNOLOGY}$$

The multiple linear regression equation above shows the influence of each independent variable (capital, labor, government assistance, and technology) on the dependent variable (MSMEs income) before the Covid-19 pandemic.

Based on the results of multiple linear regression testing before the pandemic on the table 2, it shows that the capital, labor, and technology variables have a calculated $t > t$ -table and a sig value $> 5\%$ so that H_0 is rejected and H_a is accepted, which means that there is a significant influence of the capital, labor, and technology variables on MSMEs income before the pandemic. However, the government assistance variable shows a t-count value $< t$ -table and a sig value $> 5\%$, so H_0 is accepted and H_a is rejected, which means that there was no significant effect of the government assistance variable on MSMEs income before the pandemic.

The third analysis is determination of MSMEs income after the pandemic. Multiple linear regression using the Ordinary Least Square (OLS) method was carried out to analyze the effect of capital, labor, government assistance, and technology on MSMEs income after the pandemic in Klaten Regency. The results of the multiple linear regression analysis after the pandemic are as follows:

Table 3. Regression Results After the Pandemic

Models	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
	B	Std. Error			
(Constant)	-100113.196	1512449.022		-.066	.947
Capital	1.378	.031	.925	43.931	.000
Labor	473349.042	91633.569	.110	5.166	.000
Government Assistance	-41438.655	42530.338	-.018	-.974	.332
Technology	30955.359	63600.922	.009	.487	.628

Source: Processed Data (2021)

Based on the results of the multiple linear regression analysis shown in the table 3 above, the results of the regression equation after the pandemic are as follows:

$$\text{MSMEs} = -100113.196 + 1.378_{\text{CAPITAL}} + 473349.042_{\text{LABOR}} - 41438.655_{\text{GOVERNMENTASSISTANCE}} + 30955.359_{\text{TECHNOLOGY}}$$

The multiple linear regression equation above shows the influence of each independent variable (capital, labor, government assistance, and technology) on the dependent variable (MSMEs income) after the Covid-19 pandemic.

Based on the results of multiple linear regression testing after the pandemic on the table 3, it shows that the capital and labor variables have a t-count $> t$ -table and a sig value $> 5\%$ so that H_0 is rejected and H_a is accepted, which means that there is a significant effect of the capital and labor variables on MSMEs income after the pandemic. However, the government assistance and technology variables show a t-count $< t$ -table and a sig value $> 5\%$ so that H_0 is accepted and H_a is rejected, which means that there is no significant effect of the government assistance and technology variables on MSMEs income after the pandemic.

3.2. DISCUSSION

First of all, we will discuss about differences in MSMEs income in Klaten Regency before and after the pandemic. The independent sample t-test hypothesis test results showed a significant difference in the level of MSMEs income in Klaten Regency before and after the Covid-19 pandemic. In this study, MSMEs income before the pandemic increased more than after the pandemic. Several factors cause differences in MSMEs income before and after the pandemic. These factors are due to capital, labor, government assistance, and technology. The existence of business capital before the pandemic greatly influenced increasing MSMEs income. However, when the Covid-19 pandemic occurred, several MSMEs actors could not buy raw materials because the income obtained was not commensurate with the capital expended.

Before the pandemic, the workforce used increased, but several MSMEs actors reduced the number of workers used during the pandemic. This resulted in limited employment opportunities. The existence of government assistance has not been able to provide welfare for business actors. The uneven distribution of government assistance provided to MSMEs actors in Klaten Regency has resulted in several business actors needing help running their businesses amid the pandemic. The technology used by MSMEs before the pandemic increased MSMEs income. During the pandemic, several MSMEs have also used technology to improve productivity and marketing of their products. According to several respondents, the existence of technology has yet to be able to increase business income amid the pandemic. This is due to the low quality of human resources in utilizing technology and the need for more capital issued to use technology.

Second, the discussion in this paper is about the influence of capital, labor, government assistance and technology on the income of MSMEs in Klaten Regency before the pandemic. Based on the results of the regression estimation before the pandemic. The study results show that the regression coefficient value of the capital, labor, government assistance, and technology variables positively impacted the income of MSMEs before the pandemic in Klaten Regency.

The coefficient value of the capital variable shows a positive value, namely 1.310. If the capital increases by 1 rupiah, it will increase income by 1.310. The greater the capital used for business continuity, the greater the effect on the income of MSMEs in Klaten Regency before the pandemic. The positive effect of the capital variable on the income of MSMEs in Klaten Regency is in accordance with research by Gonibala et al. (2019) and Hasanah et al. (2020), which states that capital partially has a significant effect on the income of MSMEs in Kotamobagu City and Purbalingga Regency.

The coefficient value of the labor variable also shows a positive value, namely 257925.527. So if the workforce used increases by one person, it would increase the income of MSMEs by 257925.527 rupiahs before the pandemic. The positive influence of the labor variable on MSMEs income is in accordance with research by Habriyanto et al. (2021) and Laili & Setiawan (2020), which states that labor partially has a significant effect on MSMEs income in Pekalongan City.

In the study, the government assistance variable did not significantly affect the MSMEs income variable before the pandemic in the Klaten Regency. The government assistance variable does not affect MSMEs income in the Klaten Regency because the government assistance provided to MSMEs actors still needs to be more balanced. In addition, several factors cause MSMEs actors not to receive government assistance, including the need for more public information regarding capital assistance. Moreover, the government in Klaten Regency needs to reach MSMEs actors in several areas.

The coefficient value of the technology variable shows a positive value, namely 224608.228. This means that increasing technology will increase MSMEs income by 224608.228 rupiahs. Technology positively influences MSMEs income because the better it is at using technology, the more it will increase production so that it can produce more goods, which will increase business income. The positive and significant influence of technology variables on MSMEs income is in accordance with the research by Marfuah & Hartiyah (2019), which states that technology variables partially have a positive and significant influence on MSMEs income in the Tanggulangin Bag and Suitcase Industry Center.

Third, the discussion in this paper is about the effect of capital, labor, government assistance and technology on MSMEs income in Klaten Regency after the pandemic. Based on the results of regression estimation after the pandemic. The study results show that the regression coefficient value on the capital, labor, and technology variables positively affects income. However, the regression coefficient value on the government assistance variable shows a negative value on MSMEs income.

The coefficient value of the capital variable shows a positive value, namely 1.378, meaning that if capital increases by 1 rupiah, it will increase income by 1.378. This coefficient value is more significant than in the conditions before the pandemic, 1.310. This means that in conditions after the pandemic, MSMEs actors need more capital to run and improve their businesses. The greater the capital used for business continuity, the greater the impact on MSMEs income in Klaten Regency after the pandemic.

The coefficient value of the labor variable also shows a positive and significant value on MSMEs income, namely 473349.042, meaning that if the workforce used increases by one person, it would increase MSMEs income by 473349.042 rupiahs. The coefficient value after the pandemic is more significant than in the conditions before, which is 257925.527. This means business actors need more labor to run and increase MSMEs income in conditions after the pandemic. This study contrasts with research by Polandos et al. (2019), who state that labor does not significantly affect MSMEs income. However, the results of this study are in accordance with the research by Laili & Setiawan (2020) which states that labor partially has a significant effect on MSMEs income in Pekalongan City.

The coefficient value of the government assistance variable after the pandemic shows a negative value of -41438.655. These results indicate a non-unidirectional relationship between the government assistance variable and MSMEs income. If government assistance increases, MSMEs income will decrease by -41438.655. This differs from before the pandemic when the coefficient value was positive, namely 148960.184. The government assistance variable before and after the pandemic showed insignificant results on MSMEs income. This is because some respondents who filled out the questionnaire had yet to feel any government policy regarding government assistance in the form of capital assistance to help their production activities due to the Covid-19 pandemic. Another cause is the need for more community ability to manage government assistance given to MSMEs actors. This study is based on the research by Bhagas, (2016), who states that government assistance does not significantly affect MSMEs income.

The coefficient value on the technology variable is positive, namely 30955.359. This means that the technology variable has a positive direction on MSMEs income. However, research after the pandemic showed that the technology variable did not significantly affect MSMEs income, this is different from the conditions before the pandemic, where the technology variable had a significant effect on MSMEs income. The results of this research after the pandemic are contrary to the results by Utari & Dewi (2014) and Hasanah et al. (2020), which stated that technology significantly affects MSMEs income. Utilization of technology during the Covid-19 pandemic cannot directly increase MSMEs income, one of which is due to customer or consumer factors. Another reason technology does not affect the income of MSMEs in Klaten Regency is that several MSMEs actors have yet to use technology in their production process. The lack of capital for technology procurement is why several MSMEs actors still need to use technology. Low human resource capacity in managing technology is also one of the contributing factors. So, during the Covid-19 pandemic, the benefits of technology still cannot be felt to increase MSMEs income in the Klaten Regency.

4. CONCLUSION

In this study, MSMEs income before the pandemic was higher than after the pandemic. The variables of capital, labor, and technology had a positive and significant effect on MSMEs income in Klaten Regency before the pandemic. The government assistance variable has no significant effect on the income of MSMEs in Klaten Regency before the pandemic. This is because the government assistance provided to MSME actors has not been evenly distributed throughout all areas in Klaten Regency and because of the lack of frequency of assistance provided.

The variables of capital and labor have a positive and significant effect on the income of MSMEs in Klaten Regency after the pandemic. Moreover, government assistance and technology variables have no significant effect on the income of MSMEs in the Klaten Regency after the pandemic. This is due to the unequal distribution of government assistance to all business actors in the Klaten Regency and the need for more information regarding government assistance that can help MSMEs productivity amid the pandemic. MSMEs business actors still need to utilize technology to help business productivity or market their products during the pandemic. The government must provide capital injections, training, and support for MSMEs actors to gain access to capital to develop their businesses and increase their income.

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