

Research article

Determinant Income of Merchants in Magelang City During the COVID-19 Pandemic

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Abstract.

The COVID-19 pandemic has affected many businesses around the world, including the merchants in Magelang City, Indonesia. This study explores the impact of the pandemic on merchants' revenue in Magelang City in 2021. The dependent variable used in this study was merchants' income in Magelang City, while the independent variables were capital, the amount of labor, the length of the establishment of the business, the COVID-19 pandemic, and the number of visitors/buyers. The data used in this study are the primary data obtained from interviews with 63 merchants from three sub-districts of Magelang City. Data were collected between June 26, 2021, and August 5, 2021, and compared using paired sample *t*-tests. While the variables capital, labor, business length, and visitors/buyers had a significantly positive effect on merchants' income in Magelang City in 2021, the COVID-19 variable had a significantly adverse effect.

Keywords: merchants revenue, determinant income, COVID-19 pandemic

1. Background

The retail industry has an essential role in supporting economic growth in Indonesia in terms of trade and consumption. The trade sector grew by 13.02 percent in the third quarter of 2019, while consumption was 56.52 percent of total GDP. The trade sector is a pillar of national economic growth and directly impacts the economic growth of developed or developing countries. An increase in trade productivity can contribute to economic growth.

The current COVID-19 pandemic inevitably has an impact on various sectors. At the global economic level, the COVID-19 pandemic has had a significant impact on the country's domestic economy and the presence of traders. The *Organization for Economic Co-operation and Development* (OECD) report states that this pandemic has implications for the threat of a significant economic crisis marked by the cessation of production activities in many countries, falling levels of public consumption, loss

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of consumer confidence, falling stock markets which in turn leads to uncertainty. [1]. If this continues, the OECD predicts *output* levels will fall by between one-fifth and one-quarter in many countries, with consumer spending potentially falling by around one-third. Predictions indeed threaten the national economy of Indonesia. Pakpahan [2] stated three implications for Indonesia regarding the COVID-19 pandemic: the tourism, trade, and investment sectors.

Until June 2021, Magelang City is included in the red zone with cases of 412 people without symptoms (OTG), 286 people under surveillance (ODP), 60 patients under surveillance (PDP), and 33 positives. The Magelang City Government has also made a policy that applies to all Kali Lima Traders (PKL) who sell at various culinary centers in Magelang City to limit the time they sell until now. This restriction results from an agreement between the street vendor association and the Magelang City Government to prevent the spread of COVID-19.

The Tuin Van Java Culinary Center Association head explained that traders choose not to sell because their income is less than their expenses. Some still survive because they depend on Tuin Van Java for their lives. He hopes this pandemic will end soon so that buying and selling activities can return to normal and traders can make profits again [3].

Researchers conducted a pre-survey to find out whether traders experienced the impact of restrictions due to the COVID-19 pandemic in Magelang City. The results obtained are as follows;

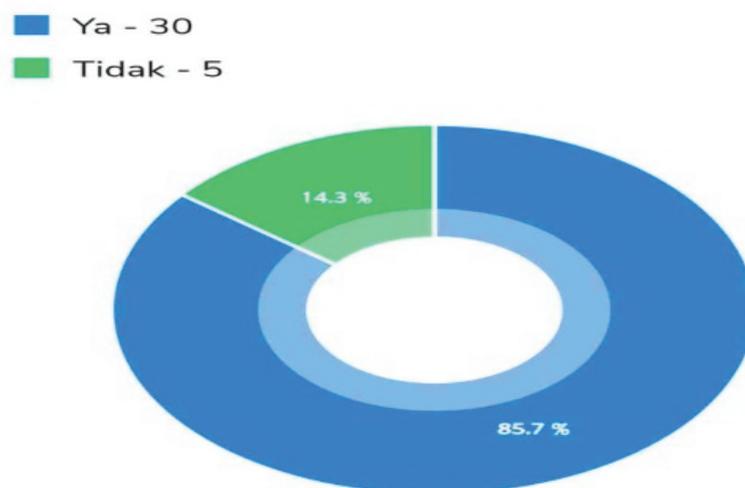


Figure 1: The turnover of Magelang City traders in 2021. (Source: Magelang City Pre-Survey Results (July 2021)).

Based on Figure 2, it can be seen from the pre-survey results in July 2021 with a sample of 34 respondents from each sub-district of Magelang City showing that 85.7% experienced a decrease in turnover due to the Covid-19 pandemic. Meanwhile, only 14.3% or 2 of 34 respondents did not experience a decrease in turnover due to the Covid-19 pandemic. The survey results also show that the average decline in turnover due to the Covid-19 pandemic experienced by trading business actors can be seen in table 1 below;

TABLE 1: The total of decreased turnover of traders in Magelang City 2021.

Decrease(%)	Amount (%)
0	9
10-30	23
30-50	29
50-70	24
>70	15

Source: Magelang City Merchants Pre Survey Results (July 2021)

From these various phenomena, researchers are interested in examining how the income of traders in Magelang City during the COVID-19 pandemic in 2021.

2. Literature Review

2.1. Impact of the Covid-19 Pandemic on the economy

The COVID-19 pandemic has resulted in more than 4.3 million confirmed cases and over 290,000 deaths globally [4]. It has also fueled fears of an impending economic crisis and recession. Social distancing, self-isolation, and travel restrictions have reduced the workforce in all sectors of the economy and caused many jobs to be lost. Schools have closed, and the need for commodities and manufactured products has decreased. On the other hand, the need for medical supplies has increased significantly. The food sector also faces increased demand due to panic buying and stockpiling of food products.

2.2. The Impact of Covid 19 on the Manufacturing Industry Sector

A survey conducted by the *British Plastics Federation (BPF)* explores how COVID-19 affects manufacturing businesses in the United Kingdom. Over 80% of respondents anticipate a decline in turnover over the next two quarters, with 98% acknowledging

concerns about the negative impact of the pandemic on business operations[5]. Import issues and labor shortages are significant concerns for businesses due to supply chain disruptions and self-isolation policies. The Chemical Industry is expected to reduce its global production by 1.2% [5], the worst growth for the sector since the 2008 financial crisis. Large chemical manufacturing companies such as BASF which are increasing production in China, have had to suspend their activities, which contributed to a slowdown in growth [6].

2.3. Capital

Capital is one of the crucial factors of production among the various important factors of production among the various factors of production needed. Even capital is an essential factor of production for multiplication factors such as land, raw materials, and machinery. It is impossible to buy land, machinery, labor, and other technologies without capital. Capital can also be interpreted as all current assets used for the operational activities of a business at any time [7].

2.4. Income

Paula said that income is a vital element in a trading business because in doing a business, one wants to know the value or amount of income earned during the business. In an economic sense, income is remuneration for the use of production factors owned by the household sector and the corporate sector, which can be in the form of salaries or wages, rent, interest, and profits [8].

2.5. Trader

A trader is a person who sells goods or services in a market environment or other places owned and controlled by the Regional Government and is justified by its designation function. Traders can also be interpreted as people with relatively varied capital engaged in the production and sale of goods or services to meet the needs of community groups. Traders are the most influential economic actors in the trade sector because their contribution is the liaison between producers and consumers. His income can measure the welfare of a trader. Therefore the factors that influence the income of traders must be considered so that the income of traders is stable and their welfare increases so that buying and selling activities in the market continue to run

smoothly, the number of existing traders will survive and increase. Everyone can trade if they have the desire and opportunity, in which the opportunity to become a successful trader is equally open.

2.6. Theoretical Framework

Many factors can influence the income earned by traders in Magelang City. The capital owned by traders will affect the amount of merchandise. The number of goods traded will be related to the number of workers owned. The number of workers will affect the amount of production so that the amount of income will also have an effect. Consumers will better know traders who have a long business period. The length of the business will affect the quality of the goods or services produced so that it will affect the number of buyers or visitors to the merchant. The number of visitors/buyers to traders will affect the income of traders in Magelang City. The existence of the Covid-19 pandemic also dramatically affects the amount of income earned by traders in Magelang City in 2021. So the Theoretical Framework of this research is:

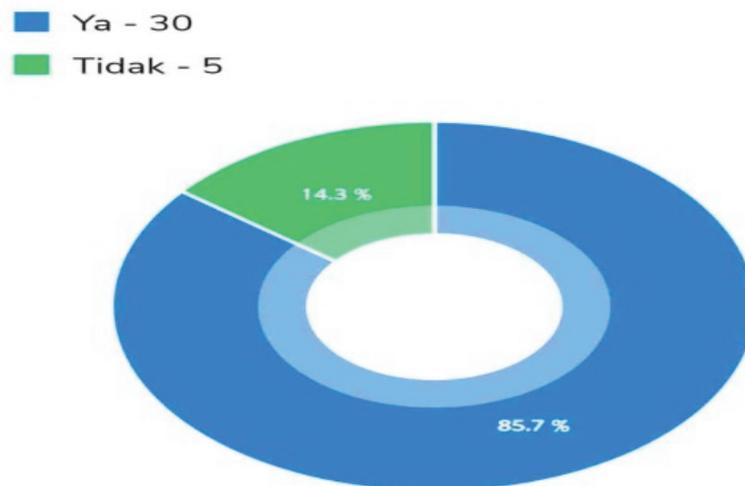


Figure 2: Theoretical Framework.

2.7. Hypothesis

The hypothesis states what relationship the researcher is testing is;

1. Capital has a positive influence on the income of traders in Magelang City
2. Labor has a positive influence on the income of traders in Magelang City

3. The length of business has a positive influence on the income of traders in Magelang City
4. The Covid 19 pandemic hurts the income of traders in Magelang City
5. Buyers have a positive influence on the income of traders in Magelang City
6. Business capital, labor, length of business, Covid19 pandemic, sellers together influence the income of traders in Magelang City.

3. Research methods

This study used primary data, which was analyzed descriptively using a quantitative approach. According to Whitney in Nazir [9], descriptive research searches for facts with the correct interpretation. Descriptive research studies problems in society and the procedures that apply in society and specific situations, including relationships, activities, attitudes, views, and ongoing processes and effects of an organization.

3.1. Population

According to Sugiyono [10], the population is a generalization area consisting of objects/subjects with specific quantities and characteristics determined by researchers to be studied and then drawn conclusions. The population of this research is all merchant in Magelang City, totaling **4.145**.

TABLE 2: Data on the Number of Merchants in Magelang City in 2020.

District	Merchants
Magelang Utara	871
Magelang Tengah	1.749
Magelang Selatan	1.525
Total	4.145

Source: Industry and Trade departement, 2020

3.2. Sample

In this study, sampling using the Slovin formula. The Slovin formula is a formula or formula to calculate the minimum sample size if the behavior of a population is not known with certainty. Slovin first introduced this formula in 1960. This Slovin formula is commonly used in research a survey where the sample size is usually considerable, so

a formula is needed to get a small sample but can represent the entire population. The population of this study was 4.145.

Slovin's formula:

$$n = N / (1 + N.(e)^2)$$

Information :

n = Number of Samples

N = Total Number of Population

e = Error Tolerance Limit

$$n = 4.145 / (1 + 4.145 \times 0.12 \times 0.12)$$

$$n = 4.145 / (1 + 59.68)$$

$$n = 4.145 / (60.68)$$

$$n = 68.3 \text{ (rounded to 68)}$$

4. Results and Discussion

4.1. Data Validity Test

The validity test will test each of the variables used in this study, where all variables contain 44 questions that the respondent must answer. The validity test was carried out to ensure how well the instrument used in the research was conducted by correlating the score of the question items with the total score. The results of the validity test can be seen in Table 4.1 below:

The validity test results based on Table 4.1 show that all question items have valid conclusions because the R calculated results are more significant than the R table. Thus, the research question as a whole deserves to be used as an instrument to measure research data.

4.2. Data reliability test

The data reliability test was carried out to see the level of determination of the results of the questionnaire measurements used. The results of the reliability test can be seen in Table 4.2 below:

The reliability test results based on Table 4.2 show that the value of *Cronbach's Alpha* on all variables is more significant than 0.05, so that it can be said that all questions are reliable or reliable.

TABLE 3: Validity Test Results.

Variable	Instrument	R-hitung	R-table	Result
X1	1	0,256	0,2039	Valid
	2	0,471	0,2039	Valid
	3	0,335	0,2039	Valid
	4	0,441	0,2039	Valid
	5	0,509	0,2039	Valid
	6	0,292	0,2039	Valid
	7	0,280	0,2039	Valid
	8	0,274	0,2039	Valid
	9	0,354	0,2039	Valid
	10	0,266	0,2039	Valid
	11	0,575	0,2039	Valid
	12	0,232	0,2039	Valid
	13	0,564	0,2039	Valid
	14	0,439	0,2039	Valid
	15	0,342	0,2039	Valid
	16	0,249	0,2039	Valid
X2	1	0,318	0,2039	Valid
	2	0,633	0,2039	Valid
	3	0,510	0,2039	Valid
	4	0,319	0,2039	Valid
	5	0,652	0,2039	Valid
	6	0,475	0,2039	Valid
	7	0,479	0,2039	Valid
	8	0,499	0,2039	Valid
X3	1	0,317	0,2039	Valid
	2	0,371	0,2039	Valid
	3	0,546	0,2039	Valid
	4	0,441	0,2039	Valid
	5	0,465	0,2039	Valid
	6	0,606	0,2039	Valid
	7	0,472	0,2039	Valid
X4	1	0,327	0,2039	Valid
	2	0,276	0,2039	Valid
	3	0,342	0,2039	Valid
	4	0,826	0,2039	Valid
	5	0,689	0,2039	Valid
X5	1	0,250	0,2039	Valid
	2	0,594	0,2039	Valid
	3	0,631	0,2039	Valid
	4	0,884	0,2039	Valid
	5	0,816	0,2039	Valid
Y	1	0,618	0,2039	Valid
	2	0,678	0,2039	Valid
	3	0,790	0,2039	Valid

Source: Primary Data, 2020

TABLE 4: Reliability Test Results.

Variable	Cronbach's Alpha	R-table	Information
X1	0.614	0.2039	Reliable
X2	0.510	0.2039	Reliable
X3	0.402	0.2039	Reliable
X4	0.338	0.2039	Reliable
X5	0.681	0.2039	Reliable
Y	0.423	0.2039	Reliable

Source: Primary Data, 2021

4.3. Classic assumption test

Data analysis used descriptive analysis based on respondents' answers and different test results. Different tests were carried out to see the difference in traders' income before and during COVID-19 using the *pair sample t-test (t-test)* method. Meanwhile, if the data in the classical assumption test does not meet the *Best Linear Unbiased Estimator (BLUE)*, then the regression model must meet the basic classical assumptions. The classical assumption test used is the Multicollinearity Test, Heteroscedasticity Test, Autocorrelation Test, and Normality Test. Of the four tests, all of them passed the classical assumption test.

4.4. Regression Analysis

TABLE 5: Regression Results.

Model	Unstandardized Coefficients			Standardized Coefficients	T	Sig.
	B	Std. Error	Beta			
1	(Constant)	4,511	1,654		2,728	,000
	X1	,368	,039	,223	2,738	,000
	X2	,121	,032	,278	3,649	,000
	X3	,345	0.047	,252	2,960	,000
	X4	,268	,106	,284	2,582	,000
	X5	,218	0.040	,253	3,442	,000

Source: Primary Data , 2021

From these results, when written in *standardized* form, the regression equation is as follows:

$$Y = 4511 + 0.223 X1 + 0.278 X2 + 0.252 X3 + 0.284 X4 + 0.253 X5 + e$$

Information :

Y = MSME income

X1 = Capital

X2 = Labor

X3 = Length of Business

X4 = Covid19 pandemic

X5 = Customers

e = Residual

The multiple linear regression and t-test in Table 4.10 show that the five regression coefficients are positive and significant. From the regression model, it can be explained further as follows:

1. The constant value (Y) is 4511, which means that if the capital, labor, length of business, the Covid-19 pandemic, and location visitors/buyers are equal to zero, the income will increase by 4511.

2. Capital variable (X1) has a positive and significant effect on Trader's Income (Y) with a regression value of 0.223 and at-count value of 2738 with a significance level of 0.008.

3. Labor variable (X2) has a positive and significant effect on Income (Y) with a regression value of 0.278 and at-count value of 3.649 with a significance level of 0.003.

4. The variable length of business (X3) has a positive and significant effect on income (Y), with a regression value of 0.252, the t-count value of 2.960 with a significance level of 0.002.

5. The Covid19 Pandemic variable (X4) has a positive and significant effect on Income (Y) with a regression value of 0.284 and at-count value = 2.582 with a significance level of 0.009.

6. The Visitor/Buyer variable (X5) has a positive and significant effect on Revenue (Y), with a regression value of 0.253 and at-count value of 3.442 with a significance level of 0.002.

5. Coefficient of Determination

The coefficient of determination (R^2) is meant as a contribution influence given independent variable (X) on the dependent variable (Y).

Based on the R-squared value: 0.877, the independent variable can explain the dependent variable of 0.877 or 87.7%, the rest is explained by other factors outside the model.

TABLE 6: Koefisien determinasi (R²).

Model	R	R Square	Adjusted Square	R Std. Error of the Estimate	Durbin-Watson
1	,570 ^a	,877	,077	,94428	1,787

Source; Primary Data,2021

5.1. t test results

The t-test is used to determine how far the influence of one independent variable individually in explaining the dependent variable. The results of the t-test in this study can be explained in Table 4.14 below:

TABLE 7: t test results.

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics			
	B	Std. Error				Beta	Tolerance	VIF	
1	(Constant)	4,511	1,654						
	X1	,368	,039	,223	2,738	,008	,727	1,376	
	X2	,121	,032	,278	3,649	,003	,827	1,210	
	X3	,345	,047	,252	2,960	,002	,736	1,359	
	X4	,268	,106	,284	2,582	,009	,881	1,134	
	X5	,218	,040	,253	3,442	,002	,825	1,211	

Source; Primary Data, 2021.

Based on the results of the t test in Table 4.4, capital has a t count of 2.738 with a significance level of 0.008. This shows $t_{\text{arithmetic}} > t_{\text{table}}$ ($2.738 > 1.993$) and a significance value ($0.008 < 0.050$). So it can be concluded that the capital variable (X1) has a positive and significant effect on income (Y). Capital has a t count of 3.649 with a significance level of 0.003. This shows $t_{\text{arithmetic}} > t_{\text{table}}$ ($3.649 > 1.993$) and a significance value ($0.003 < 0.050$). So it can be concluded that the labor variable (X2) has a positive and significant effect on income (Y). The length of business has a t count of 2.960 with a significance level of 0.002. This shows $t_{\text{arithmetic}} > t_{\text{table}}$ ($2.960 > 1.993$) and a significance value ($0.002 < 0.050$). So it can be concluded that the variable length of business (X3) has a positive and significant effect on income (Y). The Covid pandemic has a t count of 2,582 with a significance level of 0.002. This shows that $t_{\text{count}} > t_{\text{table}}$ ($2.582 > 1.993$) and a significance value ($0.009 < 0.050$). So it can be concluded that the covid19 pandemic variable (X4) has a positive and significant effect on income (Y). Visitors have a t count of 3.442 with a significance level of 0.002. This shows that $t_{\text{count}} > t_{\text{table}}$ ($3.442 > 1.993$) and a significance value ($0.002 < 0.050$). So

it can be concluded that the visitor/buyer variable (X5) has a positive and significant effect on income (Y).

5.2. F . Test Results

TABLE 8

	Model	Sum Squares	of Df	Mean Square	F	Sig.
1	Regression	110,171	5	27,034	20,281	,005 ^b
	Residual	134,200	72	1,092		
	Total	244,372	77			

Source: Primary Data , 2021

Based on the results of the F test, it is known that the calculated F has a value of 20.281, which is greater than the F table, which is 2.34, and a significance value of 0.005 ($p < 0.05$). Thus it can be concluded that the variables of capital, labor, length of business, the covid 19 pandemic, and customers jointly affect the Income of traders in Magelang City.

5.3. The Effect of Capital on the Income of SMEs in the City of Magelang

In this study, during the COVID-19 pandemic, many traders experienced a decrease in Income. Decrease income is because the capital they use for trading capital is used to cover the costs of daily living needs and other production costs. After all, Income during the COVID-19 pandemic decreased and was accompanied by a decrease in profits. So that traders use their capital to meet their daily basic needs first.

5.4. The Influence of Labor on the Income of SMEs in Magelang City

In this study, during the Covid-19 pandemic in Magelang City in 2020, according to interviews with several traders who previously had employees, they reduced the number of employees due to limited ability to pay employees due to decreased production levels resulting in lower-income levels. If traders have high purchases, they will usually call back workers laid off to help with production activities.

5.5. The Effect of Business Length on the Income of merchants in Magelang City

In the research conducted, the length of business of traders in Magelang City during the Covid-19 pandemic had a significant influence on the Income of traders in Magelang City during the Covid-19 pandemic. Traders who have been in business for more than ten years also experienced a decrease in Income. In addition, the number of business competitors in the same field during the pandemic, which was not accompanied by an increase in business, also caused Income to decrease. Traders with a long business period cannot be compared to traders who have just been established. Traders who have just been established can compete with the Income of traders who have been established for a long time with business innovation.

5.6. The Covid-19 Pandemic Against the Income of merchants in Magelang City

In this study, the Covid-19 pandemic in Magelang City significantly affected the Income of traders in Magelang City during the pandemic. From the interviews with traders in the food sector, they said that there were very few buyers for their food. There are restrictions on curfews and consumers' lack of trust towards traders who make food. Then in the tourism sector, traders who sell handicrafts also complain about the lack of visitors to tourist attractions. Sometimes if there are many visitors, their purchasing power also decreases. Grocery shop traders also complain about the lack of people buying things because some people have received basic supplies from the government every month.

5.7. The Influence of Buyers/Visitors on the Income of SMEs in Magelang

In a study conducted by interviewing traders in Magelang City during the Covid-19 pandemic, traders said their visitors were relatively down more than 50% from usual. As with culinary delights in the Magelang City square, which is usually at 21.00-22.00, there are still many people buying food; there are no buyers during the pandemic at 21.00-22.00. The curfew restrictions also affect the number of visitors. During the pandemic, many workers are WFH, so they do not go out of the house and cook their food at home. Covid 19 is one of the causes of the declining Income of traders during the Covid-19 pandemic in Magelang City.

5.7.1. Strategy Formulation

Based on this research, it can be seen that the COVID-19 pandemic creates new problems during the trading business experienced by traders in Magelang City. Business strategies in dealing with COVID-19 need to be known for business actors because it is unknown how long the COVID-19 pandemic will end. The strategies that researchers can formulate can be seen in the image below;



Figure 3

6. Conclusion

6.1. Conclusion

Based on the results of research and discussion of the conclusions, among others:

1. Capital has a significant positive effect on the income of traders affected by Covid19. Capital happens because income increases if capital increases, and vice versa.
2. The workforce has a significant positive effect on the income of traders affected by Covid19. The positive effect happens when there is an additional workforce, the level of production will increase, and income will also increase.
3. The length of business has a significant positive effect on the income of traders affected by Covid19. Positive happens because businesses that have been around for longer tend to have more experience than new traders. This experience is one way to find out what consumers want so that there is an increase in income.
4. The Covid19 pandemic significantly negatively affects traders' income. the COVID-19 pandemic has significantly impacted the community's economy. People's incomes have decreased drastically due to the lockdown in each region.
5. Customers have a significant positive effect on the income of traders affected by Covid19 in Magelang City. It happened due to the decline in people's purchasing power during the Covid-19 pandemic, so income also decreased.

6. Capital, labor, length of business, Covid19 pandemic, and buyers together have a positive and significant impact on the income of traders in Magelang City during the Covid19 pandemic.

6.2. Implication

Based on the conclusions above, the implications for this research are:

1. A unique mechanism makes it easy to provide working capital credit to traders to increase their business. The loans provided use low-interest rates and easy guarantees.
2. The existence of pieces of training to develop the soft skills of traders.
3. Setting a curfew during the Covid19 pandemic is also expected to increase the income of traders in Magelang City.
4. Merchants implement a new strategy in running their business by digitally carrying out new business plans and services.
5. Perform risk management to deal with potential losses due to business risks.

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