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Analysis of Factors Affecting Tobacco Export Volumes di Central Java Province Year 2010-2021

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ABSTRACT: This study discusses the price of tobacco and tobacco production on the volume of tobacco exports in Central Java Province in 2010-2021. This study aims to determine the effect of tobacco prices and tobacco production on the volume of tobacco exports in Central Java Province in 2010-2021. This research is aquantitative research with the subject of this research is Central Java Province. The data used comes from the Central Java Province Statistics Center in 2010-2021. The data analysis method used is a multiple linear regression analysis model using the EViews 12 program. The results of this study indicate that there is a positive and significant effect of tobacco production on the volume of tobacco exports in Central Java Province, and there is a negative and insignificant effect of tobacco prices on export volumes. tobacco in Central Java Province. And there is a positive and significant effect of price and production on the volume of tobacco exports in Central Java Province.

Keywords: Price, Production, and Volume of Tobacco Exports

INTRODUCTION

The Covid-19 pandemic has had a tremendous impact on the national economy and socio-economic conditions of the community, thus hampering various areas of life, such as social, economic, health, psychological. One of the most affected sectors is the economic sector.

Tobacco is one of the important crop commodities in Indonesia. The role of tobacco for the community is quite large because its production and marketing activities involve a number of residents to earn income and work. So tobacco farmers are human resources that become the backbone of economic development, especially in the agricultural sector. During the COVID-19 pandemic, tobacco prices have decreased and of course this has a direct impact on the welfare of tobacco farmers in Central Java Province (Wahyuni, 2021).

The development of tobacco in Indonesia cannot be separated from the existence of the industry, the role of tobacco in the national economy can be seen from several indicators such as its role in state revenue (GDP). In the national economy, the role of tobacco agribusiness and the cigarette

industry in the creation of output value, added value, and employment is less significant, but both sectors have a multiplier effect of output. (Aldillah, 2010) .

In addition to Indonesia as an exporter of tobacco products, Indonesia is also an importer of tobacco products, both tobacco leaf products and cigarettes. Overall Indonesia's position in world tobacco trade is a net exporter, in the sense that the value of exports is greater than the value of imports. The main tobacco products traded are tobacco leaves and cigarettes. Tobacco and cigarettes are products of economic value. To increase the share of domestic and foreign agriculture, especially in the field of tobacco, must be increased by strengthening products that already have a good market. (Rachmat, 2010)

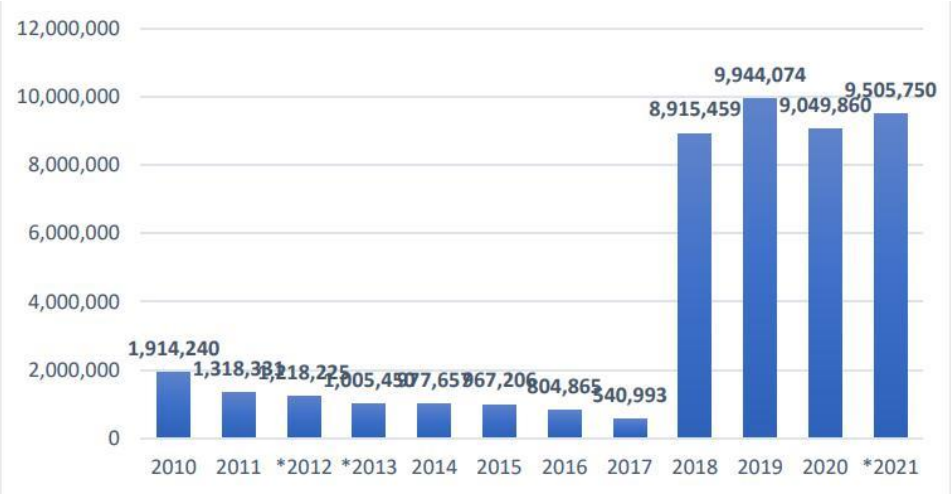
On the other hand, the supply and demand of the tobacco market grows in line with population growth and causes the price of tobacco leaves in the world to increase. This market potential is an opportunity for developing countries such as Indonesia in the short and medium term. (Rachmat, 2010)

The cultivation and use of tobacco in Indonesia has been known for a long time. Tobacco commodities have considerable significance, not only as a source of income for farmers, but also for the State. (Mulyandari, 2021)

The development of tobacco exports in Indonesia, theoretically the export of an item is influenced by a supply and demand. In the theory of International Trade by a supply (Global Trade), it is stated that factors that affect exports can be seen from the demand side and supply side (Mulyandari, 2021)

Advantages that are also disadvantages of the tobacco business are specific location properties. Tobacco plants developed in an area have adapted to the climate of the area tend to have a special appearance. When the plant is in another area/location then the appearance is lost. That is why tobacco is a commodity that is difficult to grow. (Mulyandari, 2021)

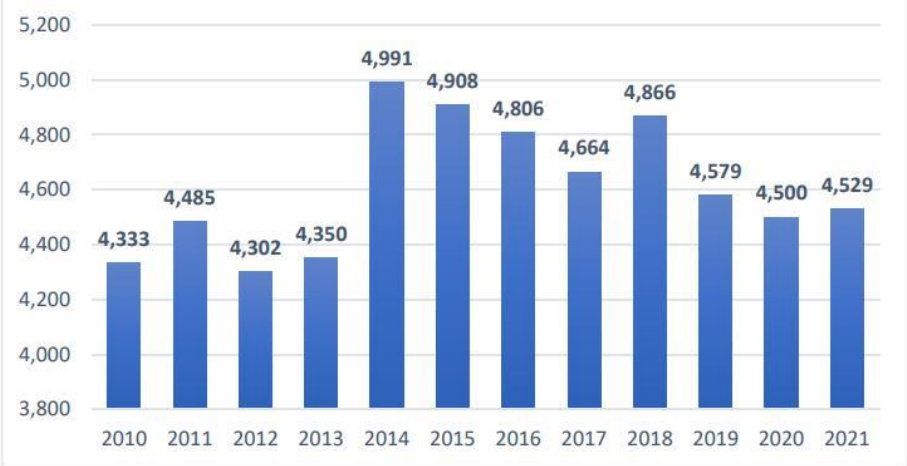
Figure 1 Volume of Tobacco Exports in 2010-2021 (kg).



Source: jateng.bps.go.id

Based on Figure 1 above, in the last 12 years the volume of Central Java's tobacco exports has fluctuated. The development of tobacco export volume in the last 12 years is known as follows: Central Java tobacco export volume in 2010 reached 1,914,240 Kg, in 2011 reached 1,318,331 Kg, in 2012 using estimated data reached 1,218,225 Kg, in 2013 using estimated data reached 1,005,450 Kg, in 2014 reached 977,657 Kg, in 2015 reached 967,206 Kg, in 2016 reached 804,865 Kg, in 2017 it reached 540,993 Kg, in 2018 it reached 8,915,459 Kg, in 2019 it increased to reach 9,944,074 Kg, in 2020 it reached 9,049,860 Kg, and in 2021 using estimated data it reached 9,505,750 Kg.

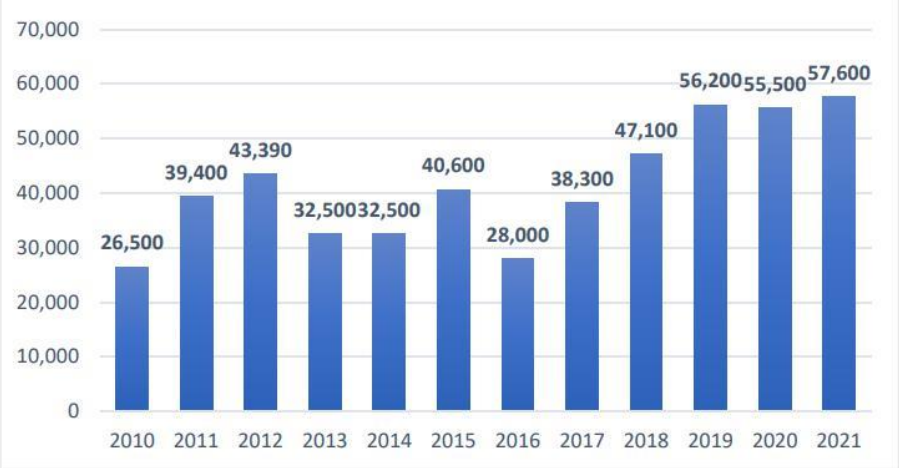
Figure 2 Tobacco Prices 2010-2021 ($/mt)



Source: worldbank.org

Based on Figure 2 above, tobacco prices also fluctuate. The development of tobacco prices in the last 12 years is known as follows: tobacco prices in 2010 reached $4,333/mt, in 2011 increased to $4,485/mt, in 2012 decreased to $4,302/mt, in 2013 reached $4,350/mt, in 2014 increased to $4,991/mt, in 2015 reached $4,908/mt, in 2016 decreased to $4,806/mt, In 2017 it decreased to $4,664/MT, in 2018 it increased to $4,866/MT, in 2019 it decreased to $4,579/MT, in 2020 it reached $4,500/MT and in 2021 it reached $4,529/MT.

Figure 3 Tobacco Production 2010-2021 (Tons)



Source: Central Java Statistics Agency

Based on Figure 3 above, the development of tobacco production in the last 12 years is known as follows: Central Java Tobacco Production in 2010 reached 26,500 tons, in 2011 reached 39,400 tons, in 2012 increased to 43,390 tons, in 2013 decreased to 32,500 tons, in 2014 reached 32,500 tons, in 2015 it increased to 40,600 tons, in 2016 it decreased to 28,000 tons, in 2017 it increased to 38,300 tons, in 2018 it increased to 47,100 tons, in 2019 it increased to 56,200 tons, in 2020 it decreased to 55,500 tons, and in 2021 tobacco production increased to 57,600 tons.

The results of previous studies stated that independent variables in the long run have a positive and significant effect on Indonesia's CPO exports. For Indonesian CPO producers, it is expected to increase their production capacity, pay close attention to the development of world crude oil prices and the movement of the rupiah exchange rate against the US Dollar. (Radifan, 2014), while domestic cocoa prices have a real and significant effect on the volume of Indonesian cocoa exports. The amount of cocoa production, international prices, rupiah exchange rate, and gross domestic product have no effect on Indonesia's cocoa export volume. (Regina Kartika Putri, 2020), and exchange rates have a negative effect and production has a positive effect on Indonesian ginger exports. In contrast, prices and inflation have no significant effect. (Ami Rismiyati, 2021).

Literature

1. Business Administration

According to (Supriyanto, 2016) Business administration is the entire process of cooperation of a group of people carried out regularly and continuously to produce or provide goods, services or facilities for sale or rent use in the community or market with the aim of obtaining the maximum profit / profit.

According to (Handayaningrat, 2013) Business Administration is the activities or processes or businesses carried out in the business field in an effort to achieve the goal of seeking profit.

(Irham, 2013) Business Administration is a sequence that classifies and describes every step of work in business which is presented clearly and firmly and arranged.

2. Import Export

According to (Purba, 2018) Import export is the seller's achievement in his effort to deliver goods to buyers across the ocean.

According to (Malau, 2017) Import export is the achievement of the seller in his effort to deliver goods to buyers in other countries. Exports are carried out by sellers in Indonesia, while imports are carried out by sellers abroad. So, import export is the act of delivery by the seller to buyers between different countries. This is the first element of an intercompany sale and purchase agreement. Meanwhile, the second element is payment, where the second element is generally carried out using foreign exchange, which is a foreign payment instrument.

According to (Pradini, 2013) states that exports and imports play an important role in the stability of a country's economy, because it will directly affect the amount of foreign exchange a country. Export and import are closely related to customs from sending and receiving countries, so exports and imports are useful for increasing cooperation between countries in international trade and

bringing a great influence to the expansion of the market for goods and services of a country. Export is not only used as a component to drive national income, but export instruments have also been used as a component to expand employment opportunities, increase foreign exchange receipts and technology development.

3. Export Volume

According to (Kobi, 2016) Export is the delivery of goods outside the Indonesian Customs area. According to (Berata, 2013) Export is the activity of issuing goods from within the territory of Indonesia or also known as the customs area outside the territory of Indonesia or out of the customs area.

According to (Sasono, 2013) Export is the activity of selling products from one country to another beyond the outermost border of a country's customs area, with the aim of obtaining foreign exchange that is urgently needed by the country, creating jobs for the domestic labor market, getting income from export duties and other taxes. As well as maintaining a balance between the flow of goods and the flow of money circulating in the country.

4. Production

According to (Wijaya, 2020) Production is the process of producing something in the form of goods and services in a period of time and has added value for the company.

According to (Kurnia, Wijaya, &; Saraswati, 2015) Production is an activity that converts input into output. Economic activity is usually expressed in terms of the production function. A continuous process over time that is efficiently repetitive so that it becomes an output that meets the design specifications that have been determined based on market desires.

According to (Fahmi, 2014) production is a part in a business organization, playing an important role in efforts to influence an organization. The production department is often seenas one of the management functions that determine product creation and contribute to the increase and decrease in sales

5. Price

According to (Buchari, 2014) states that "price is the value of an item expressed by money". Unlike the case according to (Fandy, 2015) suggests that price is the only element of the marketing mix that generates revenue, while other elements cause or are costs. While according to (Kotler &; Keller, 2016) states that "price as the amount of money charged for a product or service, or the sum of values that customers exchange for benefits of having or using the product service"

Relationships Between Variables

1. The Relationship of Price, and Production, with Export Volume According to (Nainggolan, Zefry, 2021) International prices

has an influence on changes in tobacco exports made by Indonesia, but the number of tobacco products does not have a real influence on changes in Indonesian tobacco exports.

According to (Naufal, 2021) the variable international tobacco price in the long term has a negative and short effect does not affect the volume of Indonesian tobacco exports to the United States, the variable amount of domestic tobacco production both in the long and short term has a negative effect on the volume of Indonesian tobacco exports to the United States.

According to (Kurniawati, Yulianto, &; Abdillah, 2016) International tobacco prices, the amount of domestic production simultaneously affects the value of Indonesian tobacco exports significantly.

2. Price Relationship with Export Volume

According to Soekartawi (Utami 2020) in (Nainggolan, Purba, &Sihotang, 2021) "the relationship between international prices and export volume is that if commodity prices in the global market are greater than the domestic market, then the number of commodities exported will increase". The international price of a commodity is an indirect impact of the increasing economy of the countries importing the commodity.

Based on research conducted by Syarif (2018) in (Nainggolan, Purba, &; Sihotang, 2021) "the greater the difference between prices in the international market and domestic prices will cause the number of commodities to be exported to increase". International prices are a balance between export supply and import demand for a commodity on the world market increases so that commodities in the domestic market are stable, then the difference between international and domestic prices will be even greater.

According to Antik, et al (2019) in (Nainggolan, Purba, &; Sihotang, 2021) "one of the factors that affect tobacco prices in the global market is the volume of tobacco exports that occur between each country that conducts tobacco purchase transactions every year".

The results of international price research show that international prices have a negative and significant effect on the volume of Indonesian tobacco exports. The results of this study are not in accordance with the theory, The difference with the theory in this study can be caused by the international price of tobacco that rises but is not in line with tobacco demand in the international market, as a result of which the volume of tobacco exports decreases. (Nainggolan, Purba, &; Sihotang, 2021)

3. Production Relationship with Export Volume

According to Komalasari in (Nainggolan, Purba, &; Sihotang, 2021) increased production will have a positive effect on export offers. The more the amount of production, the more supply will be exported which increases the volume of exports and vice versa. The results of Komalasari's research show that production has a positive but partial effect on Indonesia's export volume. Because the effect is not significant, the results show that when production increases, it is not always the volume of exportsthatincrease due to large supply.

According to (Suresmiathi &; Dewi, 2015) In exporting plantation commodities, production factors are the main factors that must be met. Due to the high and low factors of production that determine the high and low exports of commodities

According to (Setiawina, 2013) Production is the process of processing raw goods into finished goods. Each country or company produces different goods and the country has high domestic production, so the country will export high.

METHOD

The method used in this study uses a quantitative descriptive approach which means that the information in the variable is as a real number, for example: population information and the number of births (Sujarweni, 2012).

Based on the type of research, this study is included in the type of causality research that aims to examine cause-and-effect relationships between variables. Researchers use 3 variables consisting of; Tobacco Price (X1), Tobacco Production (X2) and Export Volume (Y).

Data collection techniques are carried out by recording. Recording is used to collect secondary data, namely by utilizing publication reports related to Tobacco Price, Production, and Export Volume obtained from the websites of the Central Bureau of Statistics of Central Java Province, the Central Java Provincial Agriculture Office, and the Trade and Industry Office.

Table 1 Data for all variables studied in the study

YEAR	Price Tembakau ($/mt)	Production Tembakau (Ton)	Volume Exports Tembakau (Kg)
2010	4,333	26,500	1,914,240
2011	4,485	39,400	1,318,331
2012	4,302	43,390	***1,218,225**
2013	4,350	32,500	***1,005,450**
2014	4,991	32,500	977,657
2015	4,908	40,600	967,206
2016	4,806	28,000	804,865
2017	4,664	38,300	540,993
2018	4,866	47,100	8,915,459
2019	4,579	56,200	9,944,074
2020	4,500	55,500	9,049,860
2021	4,529	57,600	***9,505,750**

The method of determining the research area is carried out purposively or deliberately, which is how to take the research area by considering the known reasons of the research area.

Central Java Province was chosen as the research location because Central Java Province is one of the tobacco centers in Indonesia whose production is able to meet domestic needs and the needs of the world tobacco market, so Central Java Province is considered suitable as a research location

RESULT AND DISCUSSION

Research Results

1. Descriptive Statistical Test

Descriptive analysis is used to see the development of variables used in the study, while the independent variables in this study are Price (X1), and Production (X2). The dependent variable in this study is Tobacco Export Volume (Y). Successively in the following section will be described the data of each of these variables. Description of data such as standard deviation, lowest score (minimum), and highest score (maximum). The following are the results of a descriptive analysis using the EViews version of the program.

Table 2 Descriptive Analysis Results

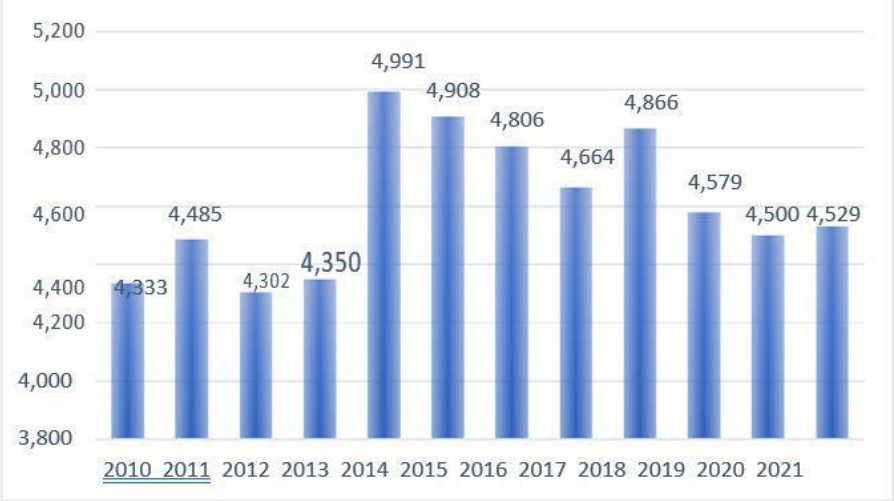
	HARGA X1	PRODUKSI X2	VOLUME EKSPOR Y
Mean	8.434667	10.60067	14.58042
Median	8.423500	10.59700	14.05250
Maximum	8.515000	10.96100	16.11200
Minimum	8.367000	10.18500	13.20100
Std. Dev.	0.051092	0.265422	1.125007
Skewness	0.204574	-0.075876	0.494750
Kurtosis	1.708293	1.841076	1.522365
Jarque-Bera	0.917955	0.683067	1.581259
Probability	0.631929	0.710680	0.453559
Sum	101.2160	127.2080	174.9650
Sum Sq. Dev.	0.028715	0.774935	13.92204
Observations	12	12	12

Source: Data processed by authors

The table above describes the description of each research variable. A detailed explanation of the table is as follows:

a. Descriptive Price

Figure 4 Tobacco Prices 2010-2021 ($/mt)

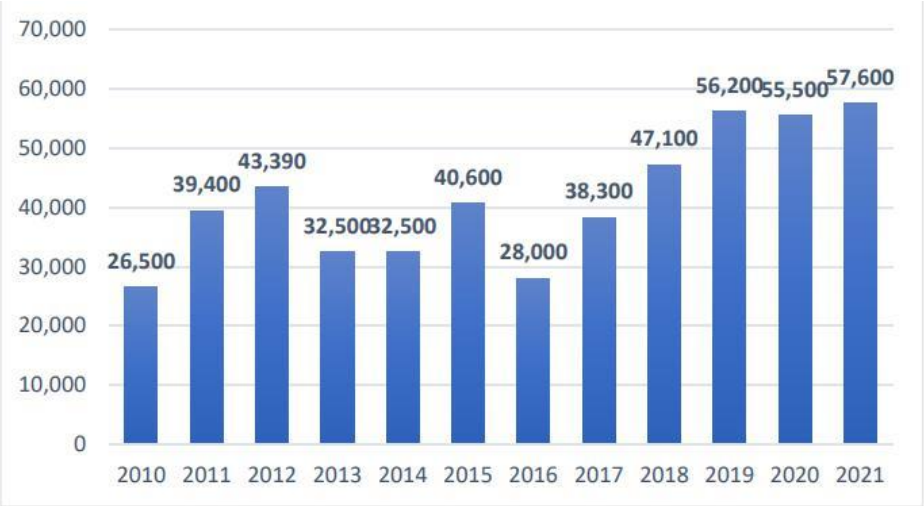


The price of tobacco exports in this study uses data released by the World Bank which has been published through its official website www.worldbank.org. Based on table 2 of descriptive analysis, the variable Tobacco Price in 2010-2021 has an average value (mean) of 8.434667 with a maximum value of 8.515000, the minimum value is 8.367000 with a standard deviation of 0.051092.

Based on these data, it shows the difference between the minimum tobacco export price and the maximum tobacco export price, which is from 8.367000 to 8.515000. This value shows that tobacco export prices have increased. From the table above, it can be seen that the value of the standard deviation is still below the average (mean) price of tobacco exports.

b. Descriptive Production

Figure 5 Tobacco Production 2010-2021 (Tons)

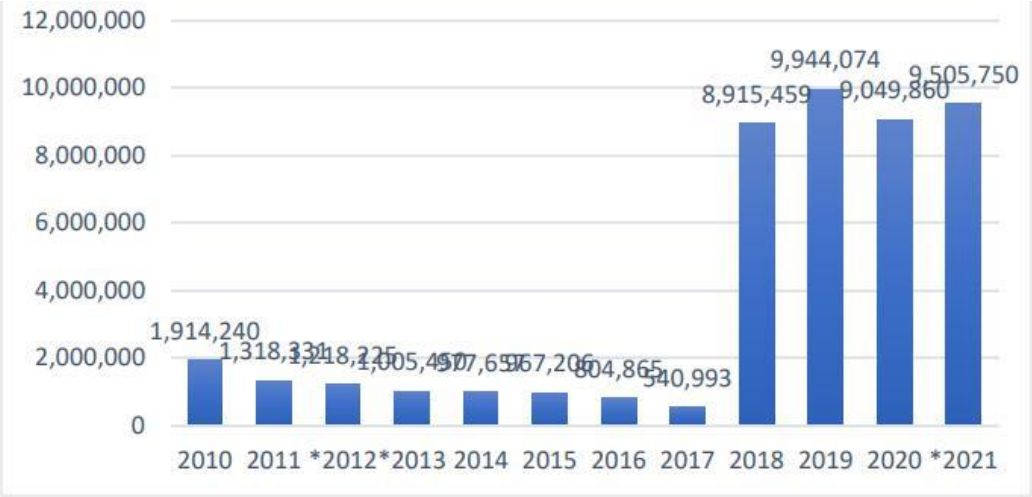


Tobacco production in this study uses data released by BPS Central Java Province which has been published through its official website https://jateng.bps.go.id. Based on table 2 of descriptive analysis, the variable Tobacco Production in 2010-2021 has an average value (mean) of 10.60067 with a maximum value of 10.96100, the minimum value is 10.18500 with a standard deviation of 0.265422.

Based on these data, it shows the difference between minimum tobacco production and maximum tobacco production, which is from 10.18500 to 10.96100. This value shows that tobacco production has increased. From the table above, it can be seen that the value of the standard deviation is still below the mean of tobacco production.

c. Descriptive Volume of Tobacco Export

Figure 6 Volume of Tobacco Exports in 2010-2021 (Kg)



The volume of tobacco exports in this study uses data released by BPS Central Java Province which has been published through its official website https://jateng.bps.go.id. Based on table 2 of descriptive analysis, the variable Tobacco Export Volume in 2010-2021 has an average value (mean) of 14.58042 with a maximum value of 16.11200, the minimum value is 13.20100 with a standard deviation of 1.125007.

Based on these data, it shows the difference between the minimum Tobacco Export Volume and the maximum Tobacco Export Volume from 13.20100 to 16.11200. This value shows that the volume of tobacco exports has increased. From the table above, it can be seen that the value of the standard deviation is still below the average (mean) of Tobacco Export Volume.

2. Multiple Linear Regression Test

In this study using multiple linear regression analysis which serves to determine whether there is an influence between variables (Price, and Production) on Tobacco Export Volume, with a regression equation:

$$\hat{Y} = a + \beta_1 X1 + \beta_2 X2 + \varepsilon$$

To see the estimation results of the data research model processed with the EViews 12 program, the results of regression analysis calculations are obtained as shown in the following table.

Table 3 Multiple Linear Regression Results

Dependent Variable: VOLUME_EKSPOR_Y
Method: Least Squares
Date: 06/22/22 Time: 21:28
Sample: 2010 2021
Included observations: 12

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-7.514580	41.66267	-0.180367	0.8609
HARGA_X1	-1.412721	4.753700	-0.297183	0.7731
PRODUKSI_X2	3.208366	0.915063	3.506169	0.0067

R-squared	0.581323	Mean dependent var	14.58042
Adjusted R-squared	0.488284	S.D. dependent var	1.125007
S.E. of regression	0.804766	Akaike info criterion	2.615788
Sum squared resid	5.828837	Schwarz criterion	2.737015
Log likelihood	-12.69473	Hannan-Quinn criter.	2.570905
F-statistic	6.248145	Durbin-Watson stat	2.074855
Prob(F-statistic)	0.019882		

Source: Data processed by the author

Based on the table above, it can be formulated in a multiple linear regression equation as follows:

$$\hat{Y} = a + \beta 1X1 + \beta 2X2 + \varepsilon$$

$\hat{Y}$ = -7.514 + -1.412(X1) – 3.208(X2)

$\hat{Y}$ = Volume Ekspor Tembakau

β1X1 = Harga Tembakau β2X2 =

Produksi Tembakau

From the equation above, it can be seen that:

1. The constant value is -7.514 which means that if the variable Tobacco Price and Tobacco Production is considered non-existent or zero, then the average variable Tobacco Export Volume is -7.514.

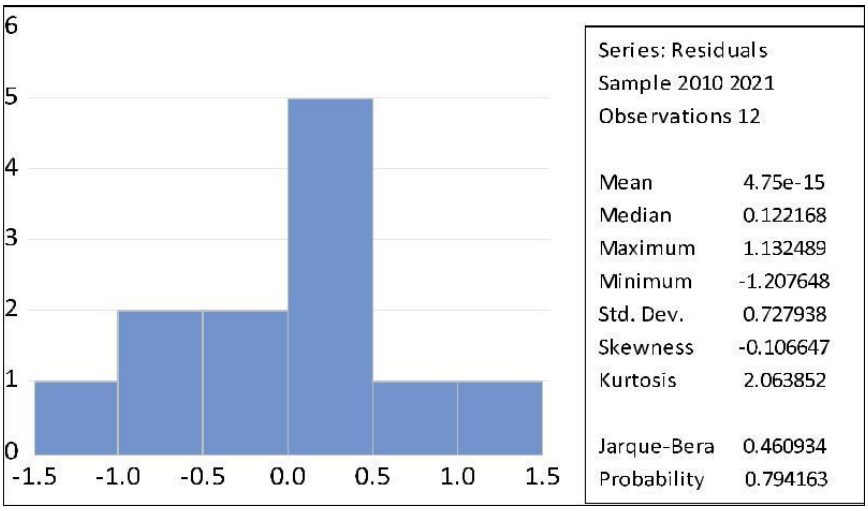
2. The value of the regression coefficient in the Tobacco Price variable is -1,412 and is negative, meaning that Tobacco Price has a negative relationship with Tobacco Export Volume, then an increase of $1 Tobacco Price will cause a decrease in Tobacco Export Volume by - 1,412.

3. The value of the regression coefficient in the Tobacco Production variable is 3,208 and is positive, meaning that Tobacco Production has a positive relationship with Tobacco Export Volume, then an increase of 1 ton of Tobacco Production will cause an increase in Tobacco Export Volume by 3,208.

3.Classical Assumption Test

a. Normality Test

Table 4 Normality Test Results



Source: Data processed by the author

By looking at the display of the histogram graph, it can be concluded that the regression model satisfies the normality assumption that the Jarque-Bera value is 0.460934 > 0.05, and the Probability Value is 0.794163 > 0.05, it can be concluded that the residuals are normally distributed.

b. Multicollinearity Test

Table 5 Multicollinearity Test Results

Variance Inflation Factors
Date: 06/24/22 Time: 00:12
Sample: 2010 2021
Included observations: 12

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	1735.778	32161.49	NA
HARGA_X1	22.59767	29789.00	1.001908
PRODUKSI_X2	0.837341	1744.456	1.001908

Source: Data processed by the author

Interpretation of the table above, the results of the multicollinearity test can be seen in the Centered VIF column table. For each VIF value on the variables Price 1.00, and Production 1.00. So the VIF value for the two variables above is not greater than 10, so it can be said that there is no multicollinearity in the two independent variables. Based on the condition of the classical assumption r multiple linear egression is good is free from the existence of multicollinearity. Thus the above model has been free from multicollinearity.

c. Heteroscedasticity Test

Table 6 Heteroscedasticity Test Results

Heteroskedasticity Test: Glejser
Null hypothesis: Homoskedasticity

F-statistic	0.140180	Prob. F(2,9)	0.8711
Obs*R-squared	0.362522	Prob. Chi-Square(2)	0.8342
Scaled explained SS	0.228242	Prob. Chi-Square(2)	0.8921

Test Equation:
Dependent Variable: ARESID
Method: Least Squares
Date: 06/22/22 Time: 21:48
Sample: 2010 2021
Included observations: 12

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	12.57408	22.68037	0.554893	0.5925
HARGA_X1	-1.340267	2.585542	-0.518370	0.6167
PRODUKSI_X2	-0.064937	0.497704	-0.130473	0.8991

R-squared	0.030210	Mean dependent var	0.581004
Adjusted R-squared	-0.185299	S.D. dependent var	0.402046
S.E. of regression	0.437713	Akaike info criterion	1.397812
Sum squared resid	1.724335	Schwarz criterion	1.519038
Log likelihood	-5.386870	Hannan-Quinn criter.	1.352929
F-statistic	0.140180	Durbin-Watson stat	1.885183
Prob(F-statistic)	0.871063		

Source: Data processed by the author

Based on the results of the Heteroscedasticity Test using the EViews program version 12, the value of Prob. Chi-Square at Obs*R-squared of 0.36 where the result is > 0.05, it can be concluded that there is no heteroscedasticity problem.

d. Autocorrelation Test

The autocorrelation test aims to identify in the regression model there is a relationship between confounding errors in period t with period t-1 (previous) or not. The presence or absence of autocorrelation can be seen with DurbinWatson test (DWtest) values. The results of the autocorrelation test using the EViews version 12 program are as follows:

Table 7 Autocorrelation Test Results

Dependent Variable: VOLUME EKSPOR Y
Method: Least Squares
Date: 06/22/22 Time: 21:28
Sample: 2010 2021
Included observations: 12

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-7.514580	41.66267	-0.180367	0.8609
HARGA_X1	-1.412721	4.753700	-0.297183	0.7731
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R-squared	0.581323	Mean dependent var	14.58042
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S.E. of regression	0.804766	Akaike info criterion	2.615788
Sum squared resid	5.828837	Schwarz criterion	2.737015
Log likelihood	-12.69473	Hannan-Quinn criter.	2.570905
F-statistic	6.248145	Durbin-Watson stat	2.074855
Prob(F-statistic)	0.019882		

Source: Data processed by the author

With a table value of 5% significance level, the number of data 12 (n) and the number of independent variables 2 (k = 2), from the durbin watson table (dw) a value of 2.074855 is greater than the value of du (1.5794) and smaller than (4-du) which is (4-1.5794) = 2.4206. So the data shows that there is no autocorrelation in this regression model.

4. Test the Research Hypothesis

Hypothesis testing is carried out to prove the hypothesis that has been made, namely whether there is a positive and significant influence between the independent variable and the dependent variable. Hypothesis testing is performed by Coefficient of Determination Test (R2), Simultaneous Test (F-test), and Partial Test (t-test).

a. Test Coefficient of Determination (R2)

The coefficient of determination is used to determine how much influence the independent variables have on the dependent variable. The value of the coefficient of determination is determined by the value of Adjusted R Square. Here are the results of the coefficient of determination (R2) test using the EViews version 12 program:

Table 8 Coefficient of Determination Test Results

R-squared	0.581323	Mean dependent var	14.58042
Adjusted R-squared	0.488284	S.D. dependent var	1.125007
S.E. of regression	0.804766	Akaike info criterion	2.615788
Sum squared resid	5.828837	Schwarz criterion	2.737015
Log likelihood	-12.69473	Hannan-Quinn criter.	2.570905
F-statistic	6.248145	Durbin-Watson stat	2.074855
Prob(F-statistic)	0.019882		

Source: Data processed by authors

In this determination analysis using adjusted R-squared values to measure the extent of price (X1), and production (X2) explains the effect on Tobacco Export Volume (Y) in Central Java Province. It can be seen in the adjusted R-squared value, based on the test results in Table 8 it was found that the adjusted R-squared value of 0.488284 which means that the price variable (X1), and production (X2) can be explained to the Tobacco Export Volume (Y) in Central Java Province is 0.488 or 48.8%, and the remaining 51.2% can be explained by other variables that are not included in this research model.

b. Test Hypothesis with t Test

The t test is performed to see the significance of the influence of the independent variable individually (one-on-one) on the dependent variable by assuming the other independent variable is constant. Tests used with decision criteria if tcount is greater than ttable, then the independent variable partially affects the dependent variable, and vice versa if the value of tcount is smaller than ttable value, then the independent variable partially has no effect on the dependent variable.

Based on table 8 above, the following points are obtained:

a. Test the effect of price (X1) on tobacco export volume (Y).

The estimation of the study is Ha1: $\beta 1 > 0$ (acceptance of the alternative hypothesis), namely there is a significant and positive influence between price variables on tobacco export volume, where the test criteria are if the calculated value is greater than ttable, the price variable partially affects the variable volume of tobacco exports, and vice versa If the calculated value is smaller than the ttable value, the price variable partially has no effect on the export volume variable tobacco. Based on the output results, the price variable (X1) has a calculation of -0.297183 and a coefficient value of -1.412721, while the table value with (df) =n-k (12-3=9) at $\alpha = 0.05$ obtained a value of 2.26216. This does not show the calculation of > ttable, so the decision is that partially the price (X1) has no effect on the volume of tobacco exports in Central Java Province.

b. The effect of production (X2) on tobacco export volume (Y).

The estimation of the study is Ha2: $\beta 2 > 0$ (acceptance of alternative hypotheses) that there is a significant and positive influence between production variables on tobacco export volume, where the test criteria are that if the calculated value is greater than ttable, the production variable partially

affects the variable volume of tobacco exports, and vice versa if the calculated value is smaller than the ttable value, the production variable partially has no effect on the variable volume of tobacco exports.

The output results can be seen that the production variable (X2) has a calculated value of 3.506169, while the ttable value with (df) = n-k (12-3=9) at α = 0.05 obtained a value of 2.262157. So calculate > ttable, which is 3.506169 > 2.262157 with a significance value of 0.00 < 0.05. then the decision is that partially production (X2) affects the volume of tobacco exports (Y) in Central Java Province.

c. Test the Hypothesis with Test F

Table 9 Multiple Regression Estimation Results of Hypothesis Testing

Dependent Variable: VOLUME_EKSPOR_Y
Method: Least Squares
Date: 06/22/22 Time: 21:28
Sample: 2010 2021
Included observations: 12

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-7.514580	41.66267	-0.180367	0.8609
HARGA_X1	-1.412721	4.753700	-0.297183	0.7731
PRODUKSI_X2	3.208366	0.915063	3.506169	0.0067

R-squared	0.581323	Mean dependent var	14.58042
Adjusted R-squared	0.488284	S.D. dependent var	1.125007
S.E. of regression	0.804766	Akaike info criterion	2.615788
Sum squared resid	5.828837	Schwarz criterion	2.737015
Log likelihood	-12.69473	Hannan-Quinn criter.	2.570905
F-statistic	6.248145	Durbin-Watson stat	2.074855
Prob(F-statistic)	0.019882		

Source: Data processed by the author

The F test is performed to determine whether the independent variables as a whole statistically affect the dependent variable. If the Fcalculate value is greater than the Ftable value, the independent variables as a whole affect the dependent variable, and vice versa. If the Fcalculate value is smaller than the Ftable value, the independent variables as a whole have no effect on the dependent variable.

From the calculation results using the EViews 12 program above, it can be seen that the Fcalculate number is 6.248145 with a significance value of 0.000 at a 95% confidence level. While Ftable v1 = n-k (12-3=9) and v2 = k-1 (3-1=2) obtained a value of 4.26 at α = 0.05. So Fcalculate > Ftable, which is 6.248145 > 4.26 or a significance value of 0.01 < 0.05. Thus, it can be concluded that the decision is a hypothesis of rejecting H0 and accepting Ha, meaning that simultaneously/together/simultaneously the price (X1), and production (X2) affect the Volume of Tobacco Export (Y) in Central Java Province with a significance level of 5%.

Discussion

1. The Effect of Tobacco Prices on Tobacco Export Volume

Based on the results of regression analysis that has been carried out, for tobacco prices to produce a coefficient of -1.412721 means that tobacco prices have a negative influence on tobacco export volume. Higher or lower prices have an insignificant effect on export volumes. Based on the partial test results, tobacco prices have a calculation of –0.297183 with a significance value of 0.7731 > 0.05, meaning it is not significant.

Based on the test results, tobacco prices have a negative and insignificant influence. This is contrary to research conducted by (Radifan, 2014) that prices have a real and significant influence on export volume.

However, the results of this study are in line with research conducted by (Regina Kartika Putri, 2020) that prices do not affect export volume, meaning that price increases do not have a significant effect on tobacco export volume.

2.Effect of Tobacco Production on Tobacco Export Volume

Based on the results of the regression analysis that has been carried out, production produces a coefficient of 3.208366 which is positive, meaning that if production is increased, the level of tobacco export volume increases. A positive coefficient means that there is a unidirectional relationship between production and tobacco export volume. This means that production has a positive influence on the volume of tobacco exports. Higher production will have an impact on increasing Export Volume in Central Java Province.

Based on the results of the hypothesis test, production results have a positive and significant effect on Export Volume in Central Java Province. This can be seen in the partial test (t-test) which results in a tcount of 3.506169 > 2.262157 with a signification value of 0.00 < 0.05.

Based on these two test results, in the regression analysis test, the production variable has a positive coefficient and based on the results of the partial hypothesis test (t-test), production has a significant effect on tobacco export volume. Therefore, it can be concluded that there is a positive and significant influence between production on Tobacco Export Volume in Central Java Province.

The results of this study are in accordance with those conducted by (Ami Rismiyati, 2021) which states that production partially has an effect and is significant on export volume. If production is increased, the export volume will increase and will help meet regional needs that must be met, especially during this pandemic.

3.Effect of Tobacco Price and Tobacco Production on Tobacco Export Volume

The results of the hypothesis test show that price and production have a positive and significant effect on the volume of tobacco exports. This can be seen through the results of the simultaneous

test (F-test) which shows that Fcalculate is 6.248145 > Ftable 4.26 and the significance level is 0.01 < 0.05. Thus, it can be concluded that price and production simultaneously have a positive and significant effect on the volume of tobacco exports.

The test results of the coefficient of determination for price and production showed a value of 0.488284. This means that 48.8% of tobacco export volume can be explained by price and production variables. The remaining 51.2% of tobacco export volume can be explained by other variables not examined in this study.

The results of this study are in line with research conducted by (Radifan, 2014) that prices and production in the long run have a positive and significant effect on export volume. Price and production have a significant effect on tobacco export volume, meaning that increasing prices and production will increase tobacco export volume.

CONCLUSION

Based on the results of research and discussion that has been conveyed in the previous chapter, it can be concluded as follows:

1. Prices have a negative and insignificant influence on the volume of tobacco exports in Central Java Province. This can be seen from the price coefficient (X1) of -1.412721. Based on partial test results, the price has a calculation of -0.297183 with a signification value of 0.77 > 0.05.
2. Production has a positive and significant effect on the volume of tobacco exports in Central Java Province. This can be seen in the partial test (t-test) which results in a tcount of 3.506169 > 2.262157 at the rate of α = 5%. The significance value of the partial test of 0.00 is less than 0.05.
3. Price and production have a positive and significant effect on the volume of tobacco exports in Central Java Province. This can be seen through the results of the simultaneous test (F-test) which shows that Fcalculate is 6.248145 > Ftable 4.26 and the significance level is 0.01 < 0.05 and the results of the determination coefficient test with a value of 0.488284. This means that 48.8% of export volume can be explained by price and production variables. While the remaining 51.2% of tobacco export volume can be explained by other variables not studied in this study.

REFERENCES

Abdurossyad, M. I. (2018). Analysis of factors affecting exports of the food and beverage industry in Indonesia. Scientific Publications, 1-9. Retrieved from http://eprints.ums.ac.id/67487/1/NASKAH%20PUBLIKASI.pdf

Aldillah, R. (2010). Tobacco Agribusiness in Indonesia: Controversies and Prospects. Center for Socioeconomic Analysis and Agricultural Policy, 2(3), 69-80.

Ami Rismiyati, R. N. (2021). Factors Affecting Indonesia's Ginger Exports. 10.53867/JEA.v1i2.2. doi:10.53867/JEA.v1i2.22

Kurniawati, A. M., Yulianto, E., &; Abdillah, Y. (2016). AFFECT INTERNATIONAL TOBACCO PRICES, THE AMOUNT OF DOMESTIC PRODUCTION AND THE EXCHANGE RATE AGAINST THE VALUE OF INDONESIAN TOBACCO EXPORTS (Study of Indonesian Tobacco Exports 1985-2014). Journal of Business Administration, 38(2). Retrieved from http://administrasibisnis.studentjournal.ub.ac.id/index.php/jab/article/view/1505

Mulyandari, D. (2021). Analysis of factors affecting Indonesia's tobacco exports. 2(3), 1-11.

Nainggolan, Z., Purba, M. L., &; Sihotang, J. (2021). Analysis of the Effect of Total Production, Exchange Rates, and International Prices on Indonesian Tobacco Exports in 1990-2019. Journal of Economics and Business, 2(2), 11. Retrieved from https://jurnal.uhn.ac.id/index.php/ekonomibisinis/issue/view/61

Nainggolan, Zefry. (2021). Analysis of the Effect of Production Amounts, Exchange Rates, and International Prices on Tobacco Exports in 1990-2019. Journal Of Economics and Business, 2(2), 18-28.

Naufal, S. W. (2021). Analysis of the effect of international tobacco prices, the amount of domestic tobacco production, and exchange rates on the volume of Indonesian tobacco exports to the United States in 1994-2019. E-Journal of Universitas Islam Indonesia, 1-77. Retrieved from https://dspace.uii.ac.id/handle/123456789/33709

Pradini, D. Y. (2013). FORECASTING THE EXPORT VALUE AND IMPORT VALUE OF INDONESIA TO JAPAN USING THE VARIMA MODEL. Retrieved from http://karya-ilmiah.um.ac.id/index.php/matematika/article/view/26807

Purba, P. K. (2018). Legal protection of importer exporters against export-import of goods using L/C according to Law Number 7 of 2014 concerning Trade. 1-31. Retrieved from http://repository.uhn.ac.id/handle/123456789/1457

Radifan, F. (2014). Factors affecting Indonesia's crude palm oil exports in international trade. Economics Development Analysis Journal, 3(2), 259-267. DOI:10.15294/edaj.v3i2.3829

Rahman, M. M. (2010). The factors affecting Bangladesh's exports: evidence from the gravity model analysis. The Journal of Developing Areas, 44(1). DOI:10.1353/JDA.0.0075

Regina Kartika Putri, T. M. (2020). Factors Affecting Indonesia's Cocoa Export Volume in 2007-2017. Journal of Agricultural and Agribusiness Economics, 4(3). doi:doi.org/10.21776/ub.jepa.2020.004.03.08

Setianto, W. (2014). Analysis of factors affecting Indonesia's textile exports for the period 2007-2011. Economics Development Analysis Journal, 3(1). DOI:10.15294/edaj.v3i1.3525

Setiawina, N. D. (2013). The Effect of Age, Education, Employment, on the Income of Poor Households in Bebandem Village. Development Economics of Udayana University, 2(4), 173-180.

Sriningsih, M., Hatidja, D., &; Prang, J. D. (2018). Handling multicollinearity using regression analysis of the main components in the case of rice imports in Sulut Province. Scientific Journal of Science, 18(1), 19-23. Retrieved from https://ejournal.unsrat.ac.id/index.php/JIS/article/download/19396/19069

Supriyanto. (2016). Performance Testing of Non Asbestos Brake Pads Variations of Calcium Carbonate with Phenolic Resin Adhesive. Mechanical Engineering, University of Muhammadiyah Surakarta.

Suresmiathi, A. A., &; Dewi, A. A. (2015). The Effect of Total Production, US Dollar Exchange Rate and Land Area on Indonesian Rubber Exports in 1993-2013. E-Journal of Development Economics, Udayana University, 4(2).

Syaputra, L. (2017). The effect of price and promotion on sales volume in an Islamic economic perspective (study on Cv. Anugerah Semata Bandar Lampung). 67-72. Retrieved from http://repository.radenintan.ac.id/id/eprint/1140

Wahyuni, D. (2021). The impact of the Covid-19 pandemic on the welfare of tobacco farmers in Jombang Regency. Research and scientific studies in economics, 2(3), 31-40. DOI:10.31869/me.v7i2.2814

Arikunto, S. (2013). Research Procedure: A Practice Approach. Jakarta: Rineka Cipta.

Berata, I. O. (2013). Practical Guide to Import Export. Bekasi: Achieve Hope of Success.

Buchari, A. (2014). Marketing Management and Service Marketing. Bandung: CV. Alphabeta.

Danandjaja, J. (2014). Literature Research Methods. Indonesian anthropology.

Fahmi, I. (2014). Financial Performance Analysis. Bandung: Alfabeta.

Fandy, T. (2015). Marketing Strategy. Yogyakarta: 4th Edition Andi.

Ghozali, I. (2018). Applications of Multivariate Analysis with IBM SPSS 25 Program. Semarang: Diponegoro University Publishing Board.

Ghozali, Imam. (2012). Applications of Multivariate Analysis with IBM SPSS Program. Yogyakarta: Diponegoro University Publishing Board.

Ghozali, Imam. (2013). Application of Multivariate Analysis with IBM SPSS 21 Update PLS Regression Program. Semarang: Diponegoro University Publishing Board.

Ghozali, Imam. (2016). Application of multivariete analysis with IBM SPSS 23 program (8th ed.). Mould to VIII. Semarang: Diponegoro University Publishing Board.

Handayaningrat, S. (2013). Introduction to the Study of Administration and Management Science. Jakarta: CV. Haji Masagung.

Irham, F. (2013). Financial Statement Analysis. Bandung: Alfabeta.

Kobi, D. (2016). Smart Book of Import Export Transactions. Yogyakarta: Andi Offset. Kotler, P., & Keller, K. L. (2016). Marketing management 15th edition. Harlow, Essex Pearson Education Limited.

Kurnia, H., Wijaya, D., &; Saraswati, R. (2015). Operations Management, Sustainability Management and Supply Chain (11 ed.). Jakarta: Salemba Empat.

Sasono, H. B. (2013). Export management and international trade. Yogyakarta: ANDI.

Sofyan, M. (2019). Analysis Financial Performance of Rural Banks in Indonesia. *International Journal of Economics, Business and Accounting Research (IJEBAR)*, *3*(03).

Sofyan, M., & Fantini, E. (2021). Magetan Regency MSME Strategy in The New Normal. *INTERNATIONAL JOURNAL OF ECONOMICS, MANAGEMENT, BUSINESS, AND SOCIAL SCIENCE (IJEMBIS)*, *1*(1), 121-125.

Sofyan, M. (2019). Faktor-Faktor yang Mempengaruhi Jiwa Kewirausahaan Pegawai Bank Perkreditan Rakyat. *JMK (Jurnal Manajemen dan Kewirausahaan)*, *4*(3), 194-204.

Sudaryono. (2017). Research Methodology. Jakarta: Rajawali Press.

Sugiyono. (2017). Quantitative, Qualitative, and R&D Research Methods. Bandung: Alfabeta.

Sujarweni, V. W. (2012). Statistics for Research. Yogyakarta: Graha Ilmu.

Wijaya, A. (2020). Production Operations Management. Medan: Our Foundation Writes