



ISSN : 2722-7944 (Online)

Point of View Research Economic Development

<https://journal.accountingpointofview.id/index.php/povred>



Factors Affecting The Export of Coffee In South Sulawesi Province

Aryati Arfah ^{†1}, Aditya Halim Perdana Kusuma Putra²

^{1,2} Universitas Muslim Indonesia, Urip Sumohardjo, Street. Panaikang, Makassar, 90231, South Sulawesi, Indonesia

Submission Info :

Editor : Ricardo F Nanuru
Received 07 July 2020
Accepted 18 August 2020
Available online 18 September 2020

Keyword :

Productivity
Exchange Rate
Price
Export

Email Address :

arfah.aryati.fekon79@gmail.com

Abstract

This study aims to determine the factors that affect the volume of coffee exports in South Sulawesi. The independent variables contained in this study are coffee production, exchange rates, and prices. In comparison, the dependent variable in this study is the volume of exports. The type of research used in this study is time-series data during the 2000-2018 period. The data analysis in this study used the classical assumption test (normality test (Kolmogorov-Smirnov test), autocorrection test (Durbin Watson Test) Multicollinearity test), Descriptive Analysis, and Multiple Regression Analysis. On the results of the Partial Test (T-test) Variable. Production, exchange rates, and prices have a positive and significant impact on the export volume of coffee. In the simultaneous test results (Test F), the production variables, exchange rates, and prices simultaneously positively and significantly affect coffee exports.



This is an open access article under the [CC BY 4.0 International License](https://creativecommons.org/licenses/by/4.0/)
© Point of View Research Economic Development (2020)

1. Introduction

The agriculture, forestry, and fisheries sectors play quite an essential role in Indonesia's economic activity, and this can be seen from their contribution to the gross domestic product (GDP), which is quite large, which is second only to the manufacturing sector (Nguyen, 2019). During the economic crisis, the agricultural sector was strong enough to face economic shocks and proved reliable in recovering the national economy (Dahliah et al., 2020; Olilingo & Putra, 2020). One of the sub-sectors with a large enough potential is the plantation sub-sector. The contribution of the plantation sub-sector to GDP was around 3.47 percent in 2017 or is the first in the Agriculture, Animal Husbandry, Hunting and Agricultural Services sectors (Hendrayati & Gaffar, 2016). This sub-sector is a raw materials provider for the industrial sector, absorbs labor, and earns foreign exchange. Coffee is one of the plantation commodities which has an essential role in economic activity in Indonesia. Coffee is also one of Indonesia's export commodities, which is quite necessary as a source of foreign exchange in addition to oil and gas. In addition to increasingly open export opportunities, the domestic coffee market is still quite large (Laurens & Perdana Kusuma Putra, 2020; Lukman et al., 2018). Coffee productivity in Indonesia seems to have fluctuated in the 2003-2012 period but tends to stagnate. Data on the development of coffee productivity in Indonesia.

[†] Corresponding author. Aryati Arfah
Email address: arfah.aryati.fekon79@gmail.com

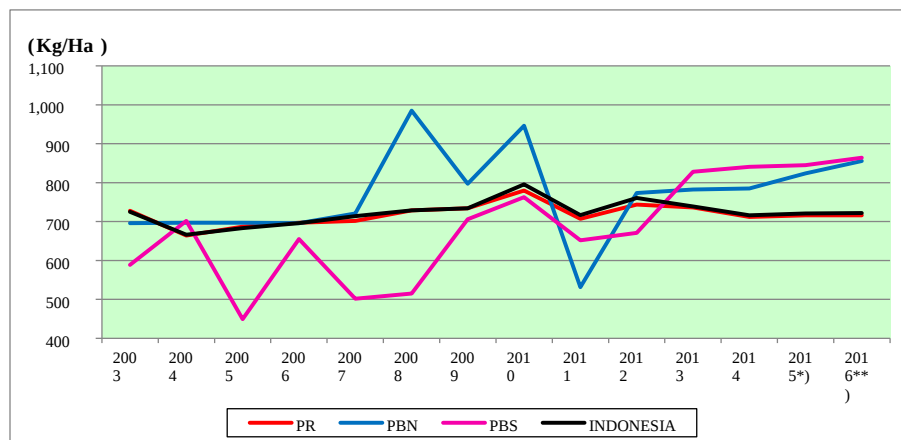


Figure 1. Indonesian Coffee Productivity 2003-2016

The fluctuation is evident, especially in large private plantations and large state plantations. However, coffee productivity growth in Indonesia in the 2003-2016 period did not experience significant changes. This is due to an increase in productive crops, which results in increased coffee production. In 2003, coffee productivity in Indonesia reached 725 kg / ha and decreased 0.41% in 2016 to 722 kg / ha. Based on Fixed Figures for Indonesian Plantation Statistics (Directorate General of Plantation, 2015), Indonesia's coffee production in 2014 was recorded at 643,857 tons. This production comes from 1,230,495 ha of coffee plantation area where 96.19% is cultivated by the people (PR). In contrast, the rest is developed by large private plantations (PBS) of 1.99%, and large state-owned plantations (PBN) of 1.82% (Outlook Coffee Indonesia, 2016).

When viewed from the type of coffee cultivated, robusta coffee dominated Indonesian coffee production in 2014. Of the 643,857 tonnes of Indonesian coffee production, 73.57% or 473,672 tonnes was robusta coffee, while the remaining 26.43% or 170,185 tonnes was Arabica coffee. Robusta coffee production centers in Indonesia in 2014 were South Sumatra, Lampung, Bengkulu, East Java, and West Sumatra provinces. Arabica coffee production centers in the same year were in the areas of North Sumatra, Aceh, South Sulawesi, West Sumatra, and East Nusa Tenggara. The average coffee price in 2015 in the Indonesian domestic market was IDR 19,135 per kg, while the level of coffee consumption in 2015 based on the results of the SUSENAS conducted by BPS was 0.896 kg/capita/year (Outlook Coffee Indonesia, 2016).

Coffee productivity data by province published by the Central Statistics Agency and the Ministry of Agriculture explains that one of the areas with high productivity in coffee is South Sulawesi. South Sulawesi Province with an average production of 20,309 tons per year. During 2012-2016, smallholder plantations in South Sulawesi Province produced 12.29% of Indonesian Arabica coffee or the equivalent of 20,309 tons per year. For 2014 alone, Arabica coffee produced by smallholders in this province reached 19,534 tonnes. This production is spread across almost all districts/cities in South Sulawesi Province, but the five districts with the largest Arabica coffee production are Enrekang, Tana Toraja, Gowa, North Toraja, and Luwu Regencies, with a total contribution to arabica coffee production in South Sulawesi Province reaching 83.18 %. Enrekang Regency in 2014 produced 7,916 tonnes of Arabica coffee or 40.52% of Arabica coffee production in South Sulawesi Province. The other largest Arabica coffee producing districts are Tana Toraja Regency, with 2,670 tons (or 13.67% of the arabica coffee production of South Sulawesi Province). Gowa Regency with a production of 2,328 tons (11.92%), North Toraja Regency with 2,066 tons (10.58%), and Luwu Regency with a production of 1,269 tons (6.50%). The growing volume of coffee production is accompanied by a great demand for this commodity in various countries. Several countries that become export destinations for Indonesian coffee include Japan, the United States, Germany, Italy, Malaysia, Thailand, and Russia. The export destination country for Indonesian coffee with a fresh and processed form with the largest export volume in 2015 was the USA amounting to 65,509 tons (13.05%). The next export destination countries that contributed significantly were Germany with 47,664 tonnes (9.49%), Italy 43,048 tonnes (8.58%), Japan 41,241 tonnes

(8.21%), Malaysia 39,394 tonnes (7.85%), Thailand 29,305 tons (5.84%), and Russia 26,940 tons (5.37%). Important factors that will affect exports are the country's ability to produce goods that can compete in foreign markets. The determinants of exports are export production, exchange rates, and prices. According to Sukirno (2003), exports are various kinds of goods and services produced domestically and then sold abroad. From the point of view of expenditure, exports are one of the most critical factors of the Gross National Product (GNP), so that by changing the value of exports, people's income will also change direction (Fizaine & Court, 2016). On the other hand, the high exports of a country will cause the economy to be susceptible to shocks or fluctuations in the international market and the world economy. In international trade, export is an important activity (Piveteau & Smagghue, 2019). Export is selling goods abroad using payment, quality, quantity, and other terms of sale approved by exporters and importers (Nguyen & Doan, 2017). To export, a country must strive to produce goods and services that can compete in the international market (Fagerberg, 1988). Export provisions issued by the Government through the Ministry of Trade, namely: First, determine the commodities prohibited from export and allowed/permitted to be exported. Second, entities that can be shipped are divided into: (e.g., Export commodities whose export is controlled, Export commodities that are subject to quality control, Items whose trade system is regulated, Items of export goods must be inspected by a surveyor, where the default is from abroad, or the exported goods are subject to an export tax).

Third, export destination countries; export trade can be carried out in all countries that have trade relations. Agricultural production (on-farm) is the first focus that will influence the next process to produce output (Agriculture and Agri-Food Canada, 2014). Production can be expressed as a set of procedures and activities that occur in the creation of commodities in farming and other business activities. So, agricultural commodities production results from a process from agricultural land in a broad sense of farming commodities (food, horticulture, plantations, fisheries, animal husbandry, and forestry) (Sukirno, 2003; Sunderlin et al., 2000). Agriculture is the activity of utilizing biological resources by humans to produce food, industrial raw materials, or energy sources and manage the environment (Warr, 2005). The action of using natural resources which are included in agriculture is commonly understood by people as plant cultivation or farming and raising of livestock, although the scope can also take the form of the use of microorganisms and bio enzymes in the processing of advanced products, such as making cheese. And tempe, or simple extraction, such as fishing or forest exploitation. In conducting international transactions, each country must consider the exchange rate or exchange rate of its currency against other countries to facilitate transactions between countries.

The exchange rate is the price of a country's currency measured or expressed in other currencies (Narayan et al., 2020). Exchange rates play an important role in spending decisions because exchange rates allow a country to translate prices from different countries into the same language (Yusof, 2007). The study of exchange rate risk on international trade seems to increase interest in international economics. This is not something new because the issue of Exchange Rate Risk Influence has important implications for selecting a global monetary system. In Europe, for example, the Exchange Rate Risk Effect is one of the main economic arguments for financial pooling. This step is expected to reduce the high risk, which can hinder trading because it is generally believed that exchange rate risk can impede international trade. According to Devereux & Yu (2019), the exchange rate or commonly referred to as the exchange rate, is the amount of domestic money needed, namely the amount of necessary rupiah to obtain one unit of foreign currency (Afidchao et al., 2014). The exchange rate is one of the essential variables in an open economy because it affects other variables, including prices and interest rates. The balance of payments and current transactions Exchange rates play a central role in international trade relations because trade between the two countries must use two different currencies (Devereux & Yu, 2019). For example, between Indonesia and the United States. American importers must buy rupiah to buy goods from Indonesia. On the other hand, Indonesian importers must buy US dollars to settle payments for goods purchased in the United States. The amount of currency required to obtain one foreign currency unit is called the foreign currency exchange rate (Khan & Khan, 2007).

A relative price, which is defined as the value of one currency against another, is called the exchange rate. It determines the purchasing power of at least for goods traded from one currency value to another currency's value. Changes in exchange rates significantly affect the price of traded goods (Soto, 2009). According to Yusof (2007), the exchange rate is the price or currency value of other countries expressed in the value of the

domestic currency. Foreign exchange rates can also be interpreted as the amount of domestic money needed, namely the required rupiah to get one foreign currency unit. The exchange rate is determined by the amount of demand and supply in the market for that currency. In reality, international trade activities are not as simple as domestic trade, which only involves interactions between people in one country to buy and sell goods and services using their currency of payment (Oktora & Firdani, 2019; Arfah et al., 2020).

Efrat et al (2018) state international trade is the process of buying and selling of goods, occurs between the people of a country and the people of other countries who want payments in their respective currencies, which differ from one another, or at least in certain currencies that can internationally be accepted, such as US Dollar, Pounsterling, Deutsmark or Yen and others, whose presence is spread across many countries. However, in various international transactions, US dollars are used most often. It is not surprising that the US Dollar has received the nickname as the driving currency, namely the leading currency, which is widely used as a value for international contracts between parties who are not residents of the country that minted the money. This is supported by the US's role, which is essential in the world economy, namely as a center of world trade. According to (Sukirno, 2004), the exchange rate is one of the most actual prices in an open economy, considering that it has such a significant influence on the current account and other macroeconomic variables. Besides, the exchange rate also plays a central role in international trade because knowing the exchange rate allows us to compare the prices of all goods and services produced by various countries to be used as a tool (instrument) of reference in export-import activities. The exchange rate is used as a determinant of the purchasing power of traded goods. Changes in the exchange rate affect the price of goods being sold. If there is an appreciation of a country's exchange rate, the price for exported goods of the related country will decrease, and vice versa, the cost of imported goods will increase. The higher the country's exchange rate, the government has a strong economy, thus obtaining sizeable foreign exchange reserves (Narayan et al., 2020). According to (Sukirno, 2003) in a fixed exchange rate system, the local currency is selected by foreign money. Another thing with the floating exchange rate system, the exchange rate can fluctuate at any time, depending on the amount of supply and demand for foreign exchange relative to the domestic currency. The need for foreign currency close to the domestic currency increases, so its value will decrease. Vice versa, if the demand for foreign currency falls, the value of the domestic currency will increase; meanwhile, if foreign exchange supply rises relative to the domestic currency, the domestic currency's exchange rate increases. Conversely, if the supply decreases, the domestic currency exchange rate decreases. As for the factors that influence the rupiah exchange rate, among others (e.g., Foreign Reserves, Interest rates, Inflation, Balance of Payments, Export to Import Ratio)(Candemir & Zalluhoglu, 2011; Piveteau & Smagghue, 2019)

Therefore, objectively this study addresses the problem formulation, namely whether the production, the exchange rate of prices affect either simultaneously or partially on the export volume of coffee in South Sulawesi Province and among these variables (i.e., production, exchange rate, cost), which variables are the most dominant influence on the volume of coffee exports. This study believes that it will impact both theoretically and practically on scientific developments and modern economic practices.

2. Research Method

This research approach uses secondary data, which data is sourced from www.sulsel.bps.go.id study observation period from 2000 - 2018. Then, to analyze the variables and test and prove the hypothesis proposed in this study, Multiple Linear Regression analysis is used, which serves to determine the influence of the variables. Independent of the dependent variable used multiple linear regression analysis using the formula proposed by Field et al (2013):

$$Y = b_0 + b_1 X_1 + b_2 X_2 + b_3 X_3 + e$$

Info:

Y = South Sulawesi Province Coffee Exports
X1 = Production
X2 = Exchange Rate
X3 = Price

- b0 = Intercept Value
b1, b2, b3, = coefficient of regression direction
e = standard error used (0.05)

Apart from that, several testing stages were also carried out to fulfill the linear regression aspects, namely reliability testing, classical assumption testing, and hypothesis testing.

3. Result and Discussion

3.1. Result

This study's population is the report on the export of coffee commodities in South Sulawesi Province during the period 2000 - 2018, namely as many as 19 years of coffee export reports as illustrated in the Table. 1. The coffee production variable experienced the highest point of 989 tonnes in 2008, and the lowest point was 183 tonnes in 2000. The average value of coffee production variables from 2000 to 2018 was 572.157 tonnes. Coffee production has increased significantly from 2008 to 2018; this is due to the large number of coffee shops operating massively in Makassar City. The exchange rate variable experienced its highest point in 2015, namely 130 million Rupiah, while the exchange rate experienced its lowest point in 2018, namely 34 million Rupiah. The average rupiah exchange rate from 2000 to 2018 was 81.578 million Rupiah. The price variable experienced its highest point in 2008 and 2009, amounting to 131 million rupiahs, while the price experienced the lowest point in 2001, namely 47 million rupiahs. The average price in the period 2000 to 2018 was 94,842 million Rupiah. The average volume of coffee exports in South Sulawesi Province is 400,842 tons. The highest point of the coffee export volume was in 2013 at 532 tons, while the lowest coffee export volume was in 2001, which was 249 tons.

Table 1. South Sulawesi Province Coffee Commodity Export Report for the period 2000 - 2018

Years	Production (1.000 ton)	Exchange rate (Million Rupiah)	Real Price (Million rupiah)	Volume Export (1.000 Ton)
2000	312	104	73	337
2001	183	54	47	249
2002	219	74	81	323
2003	251	66	97	321
2004	282	48	88	339
2005	498	71	126	443
2006	583	64	104	412
2007	634	57	91	320
2008	989	78	131	468
2009	822	111	131	510
2010	812	86	101	433
2011	689	65	92	346
2012	797	92	88	447
2013	634	135	109	532
2014	648	80	76	383
2015	690	130	103	500
2016	588	77	80	412
2017	711	124	93	464

The normality test (Kolmogorov Smirnov) is used to determine the distribution of research data that is normally distributed or not. The following is the Kolmogorov Smirnov test using SPSS 25 for Windows 10.

Table 2. Normality Test (Kolmogrov-Smirnov Test)

		Unstandardized Residual
N		19
Normal Parameters ^{a,b}	Mean	0,0000000
	Std. Deviation	27,53546347
Most Extreme Differences	Absolute	0,084
	Positive	0,084
	Negative	-0,084
Test Statistic		0,084
Asymp. Sig. (2-tailed)		.200 ^{c,d}

Based on the resulting output with a sig value of 0.200 In the table above the sig value of $0.200 > 0.10$, it can be concluded that H_0 is accepted or in other words that the residual of the autocorrelation test with Durbin Watson (DW test) is only used for auto-correlation based on retrieval as following: If $DW < dU$, there is negative auto correlation and If $DW > dU$, there is no negative auto-correlation.

Table 3. Autocorrelation Test (Durbin Watson Test)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.934 ^a	0,872	0,846	30,164	1,516
a. Predictors: (Constant), Real Price, Exchange Rate, Production					
b. Dependent Variable: Volume Export					

Based on the output and the basis for decision making above, the decision results from the autocorrelation test (Durbin Watson Test) are as follows: The calculated Durbin Watson value in the output table above is 1.516; The dU value is 0.1750; The dL value is 0.814, and the Durbin Watson value is $1.516 > 0.814$. So it can be concluded that this study is free of autocorrelation because the calculated Durbin Watson value is much greater than the dL value (Durbin Watson table). The multicollinearity test aims to test whether the regression model found a correlation between independent variables (independent).

Tabel 4. Uji Multikolinieritas

Model	Partial	Part	Collinearity Statistics Tolerance	VIF
(Constant)				
Production	0,534	0,226	0,577	1,733
Exchange Rate	0,779	0,445	0,842	1,187
Real Price	0,673	0,326	0,625	1,601
a. Dependent Variable: Volume Export				

The basis for a decision in multicollinearity test is as follows:

- If the tolerance value is more significant than 0.10, there is no multicollinearity to the tested data.
- If the tolerance value is less than 0.10, there is multicollinearity to the tested data.
- If the VIF value is less than 10.00, it means that there is no multicollinearity.
- If the VIF value is more significant than 10.00, there is multicollinearity to the tested data.

Based on the output of the test results and the basis for decision multicollinearity above, then the decision as follows:

1. The tolerance value for the production variable (X1) is 0.577, the exchange rate (X2) is 0.842, and the price (X3) is 0.625. All tolerance values for the independent variables are > 0.10, so it can be concluded that there is no multicollinearity.
2. The VIF value of the production variable (X1) is 1.733, the exchange rate (X2) is 1.187, and the price (X3) is 1.601. WITH the VIF value of all independent variables <10.0, it can be concluded that there is no multicollinearity.

Based on decision making and the results of the tolerance value and VIF value output from the multicollinearity test above, it can be concluded that there is no multicollinearity in the three independent variables that have been tested. Thus, the above model is free from multicollinearity. Descriptive statistics are data analysis using univariate statistics such as mean, median, mode, standard deviation, variance, etc. The purpose of a descriptive investigation is to determine the description or distribution of sample or population data. The results of the descriptive analysis in this study using IBM SPSS 25 for Windows 10 are as follows:

Table 5. Descriptive Analysis (n = 19)

	Minimum	Maximum	Mean	Std. Deviation
Production	183	989	572,16	228,933
Exchange rate	34	135	81,58	28,169
Price	47	131	94,84	20,611
Export Volume	249	532	400,84	76,906
Valid N (listwise)				

Table 5 obtained income with a sample size of 19, a minimum value of 183, a maximum of 989, and an average weight of 572.16. That is indicators or statements about production towards the maximum. The exchange rate with a sample size of 19, a minimum value of 34, a maximum of 135, and an average value of 81.58. That is indicators or statements regarding the exchange rate towards the maximum. The price variable with a sample size of 19, a minimum value of 47, a maximum of 131, and an average value of 94.84. That is an indicator or statement about the price towards the maximum. The export volume variable with a sample size of 19, a minimum value of 249, a maximum of 532, and an average value of 400.84. That is an indicator or statement regarding the volume of exports towards the maximum. Multiple linear regression analysis was used to determine the effect of production, exchange rates and prices on the work of coffee exports in South Sulawesi Province. Multiple linear regression analysis was used. The data processed using IBM Spss 25 for Windows 10 is time-series data, namely 2000 - 2018. The results of processing time series data for multiple regression analysis are as follows:

Table 6. Multiple Linear Regression Test Results

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	89,841	35,960		2,498	0,025
Production	0,100	0,041	0,297	2,443	0,027
Exchange rate	1,325	0,275	0,485	4,817	0,000
Price	1,537	0,436	0,412	3,522	0,003

It can be determined that the regression equation is the regression coefficient for each variable. So the regression equation is as follows:

$$Y = 89,841 + 0,100 X1 + 1,325 X2 + 1,537 X3 + e$$

- The constant is 89,841; this means that if X1, X2, and X3 are 0, then the export volume is 89,841.

- The regression coefficient for the X1 variable is 0.100; This means that if X1 is increased by 1%, the value of the export volume will increase by 0.100, assuming that other independent variables have a fixed value.
- The regression coefficient for the X2 variable is 1.325, meaning that if X2 has increased by 1%, the value of the export volume (Y) will increase by 1.325, assuming the other independent variables are constant.
- The regression coefficient for the X3 variable is 1.537, meaning that if X3 has increased by 1%, the value of the export volume (Y) will increase by 1.537, assuming the other independent variables are constant.

The t-statistical test shows how far the influence of one independent variable individually in explaining the variation in the dependent variable. In this study, the independent variable is production (X1), and exchange rate (X2), price (X3), while the dependent variable is the volume of coffee exports in South Sulawesi province. The partial test results in this study are as follows:

Table 7. Partial Test (T-Test)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	89,841	35,960		2,498	0,025
Production	0,100	0,041	0,297	2,443	0,027
Exchange rate	1,325	0,275	0,485	4,817	0,000
Price	1,537	0,436	0,412	3,522	0,003
a. Dependent Variable: Volume Ekspor					

1. The Effect of Production on the Export Volume of Coffee in South Sulawesi Province

Based on the partial calculation, the production coefficient (b1) is positive, namely 0.100, the t-calculated is 2.443, and the sig value is 0.025. This means that t is more significant than the t-estimated ($2.443 > 2.131$), and the sig value is less than 0.05 ($0.027 < 0.05$), thus H0 is rejected, and H1 is accepted. It can be concluded that there is a positive and significant effect of production on the volume of coffee exports, and this means that the hypothesis is accepted.

2. The Effect of Exchange Rate on Coffee Export Volume of South Sulawesi Province

Based on the partial calculation, the value of the exchange rate coefficient (b2) is positive, namely 1.325, the t-calculated is 4.817, and the sig value is 0.000. This means that t count is greater than t table ($4.817 > 2.131$) and the sig value is more significant than 0.05 ($0.000 < 0.05$), thus the exchange rate has a positive and significant effect on the volume of coffee exports and means that the hypothesis is accepted.

3. The Effect of Price on Coffee Export Volume of South Sulawesi Province

Based on the partial calculation, the price coefficient (b3) is positive, namely 1.537, t count is 3.522, and the sig value is 0.003. This means that the t-estimated is greater than the t-estimated ($3.522 > 2.131$), and the sig value is more significant than 0.05 ($0.003 < 0.05$), thus the price has a positive and significant effect on the export volume. It means that the hypothesis is accepted.

The F test is conducted to determine the independent (independent) variables together with the dep

- H0: There is no significant effect of production, exchange rate, and price on the export volume of coffee in South Sulawesi Province.
- H1: There is a significant effect of production, exchange rate, and price on the export volume of coffee in South Sulawesi Province.

Table 8. Simultaneous Test (F-Test)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	92812,895	3	30937,632	34,003	.000 ^b
	Residual	13647,631	15	909,842		
	Total	106460,526	18			
a. Dependent Variable: Volume Export						
b. Predictors: (Constant), Real Price, Exchange Rate, Production						

Based on the simultaneous calculation, it is obtained that the F count is 34.003 and probability F is 0.000. Thus, H0 is rejected, and H1 is accepted because the probability F is less than the significance level (0.000 < 0.05) and F is greater than the F-estimated (34.003 > 3.63). So it can be concluded that there is a positive and significant effect of production, exchange rates, and prices simultaneously or together on the volume of coffee exports in South Sulawesi Province. The coefficient of determination aims to measure how far the model can account for variations in the dependent variable. The coefficient of determination is between zero and one. The small value of R2 means that the independent variables' ability to explain the variation in the dependent variable is minimal. The results of the SPSS 25 output below are for the coefficient of determination test.

Table 9. Determination Coefficient Test (R2)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.934 ^a	0,872	0,846	30,164	1,516
a. Predictors: (Constant), Real Price, Exchange Rate, Production					
b. Dependent Variable: Volume Export					

Based on the output summary model above, information is obtained about the influence of all independent variables on the dependent variable. This influence is symbolized by R (correlation). As seen in the model summary table in column R is 0.934, meaning that the effect of the production variable (X1) on the exchange rate (X2) and price (X3) on the export volume of coffee (Y) is 93.4% (0.934 x 100%) However, this value can be said to be contaminated by various confounding values that may cause measurement errors, for that SPSS provides an alternative value of R Square as a comparison of the accuracy of the effect. It can be seen that the R Square value is 0.872 or 87.2%, meaning that all independent variables have an influence of 87.2% on the dependent variable. The remaining 12.8% is influenced by other variables not examined in this study, namely the level of coffee imports and coffee consumption.

3.2. Discussion

The discussion of the results of this study will describe the study results to answer some of the problems discussed in the previous chapter, namely the factors that affect coffee exports in South Sulawesi Province for the period 2000 - 2018. Based on the results of the output of Spss 25 for Windows 10, data analysis results can be explained. This research is as follows:

$$Y = 89,841 + 0,100 X1 + 1,325 X2 + 1,537 X3 + e$$

The constant is 89,841; this means that if X1, X2, and X3 are 0, then the export volume is 89,841. The regression coefficient for the X1 variable is 0.100; This means that if X1 is increased by 1%, the value of the export volume will increase by 0.100, assuming that other independent variables have a fixed value. The regression coefficient for the X2 variable is 1.325, meaning that if X2 has risen by 1%, the value of the export

volume (Y) will increase by 1.325, assuming the other independent variables are constant. The regression coefficient for the X3 variable is 1.537, meaning that if X3 has increased by 1%, the value of the export volume (Y) will increase by 1.537, assuming the other independent variables are constant. The normality test that has been shown in the previous chapter with Spss 25 for Windows 10 produces a significant value output of 0.200 or $2.00 > 0.05$. This means that H_0 is accepted, and the residuals are normally distributed. The autocorrelation test (Durbin Watson Test) shows the SPSS data output results with the calculated Durbin Watson value of 1.516. The dL value is 0.814; the Durbin Watson count value is $1.516 > 0.814$. So it can be concluded that this study is free of autocorrelation because the calculated during Watson value is much greater than the Durbin Watson value in the table. The multicollinearity test that has been carried out using Spss 25 for Windows 10 has shown that the production tolerance value (X1), the exchange rate (X2), and price (X3) meet the criteria for multicollinearity testing, which means that there is no multicollinearity in the analyzed data. Based on the results of partial testing, it is known that all independent variables have a value greater than the t-estimated. This means that all dependent variables have a positive effect on the volume of coffee exports. Furthermore, at the significance value, all independent variables have a significant value below 0.05, which means that they significantly affect the volume of coffee exports. The results of data processing obtained the value of $F_{\text{calculated}} > F_{\text{estimated}}$; this means that the independent variables in this study positively influence the dependent variable. Furthermore, for the significance value, it is known that the results of the data processing show a significance value of $0.000 < 0.05$, which means that the independent variables together have a significant effect on the dependent variable. In testing the coefficient of determination, it is known that the independent variables in this study have an impact of 0.872 or 87.2% on the dependent variable.

a. The Effect of Production on the Export Volume of Coffee

The effect of production on the volume of coffee exports has a partial result. Other research in line with this study is a study conducted by Nufadillah (2015) entitled "Analysis of factors affecting the volume of Indonesian coffee exports." This study indicates that coffee production has a positive and significant effect on coffee exports in the long and short term.

b. The Effect of Exchange Rate on the Export Volume of Coffee

The impact of exchange rate on the volume of coffee exports, which has been examined in this study, has a positive and significant impact simultaneously. This study's results are in line with the research conducted by Edo Soviandre in 2014 entitled "Factors Affecting the Volume of Coffee Exports from Indonesia to the United States (Studies on Coffee Export Volume 2010 - 2012)". This study indicates that simultaneously domestic coffee production, international coffee prices, and the exchange rate of Rupiah against US Dollar simultaneously have a significant effect on the volume of coffee exports from Indonesia to the United States.

c. The Effect of Price on the Export Volume of Coffee

The impact of price on the volume of exports has been investigated in this study, which has a positive and significant effect either partially or simultaneously. This research is also in line with the research conducted by Esterina Hia et al. (2013) entitled "Factors Affecting Exports of Arabica Coffee in North Sumatra" The results of this study explain that the export price of North Sumatra coffee has a positive and significant effect on the export value of coffee in North Sumatra. North Sumatra.

4. Conclusions

Based on the results of the research and discussion described in the previous chapter, conclusions can be drawn from this study, namely as follows:

1. Partially Production (X1) has a positive and significant effect on the volume of coffee exports in South Sulawesi Province, Exchange Rate (X2) has a positive and significant effect on the volume of coffee exports in South Sulawesi Province and Price (X3) has a positive and significant effect on Coffee Exports in South Sulawesi Province (Y).
2. Simultaneously Production (X1), Exchange Rate (X2), and Price (X3) have a positive and significant effect on the volume of coffee exports in South Sulawesi Province (Y)
3. Price (X3) is the variable that has the greatest influence on the volume of coffee exports in South Sulawesi Province from 2000 to 2018.

From the results of this study the authors take suggestions that it is hoped that coffee exporting companies from Indonesia, especially for South Sulawesi Province, can maintain and increase The quality of coffee production includes an increase in the area of land for coffee cultivation and the addition of quality and quality in processing coffee beans consistently and can also maintain prices to remain stable so that the volume of coffee exports will increase. Coffee export activities abroad in international business have various impacts on Indonesia, namely increasing foreign exchange, expanding employment and expanding markets for Indonesian products, as well as introducing quality domestic products on the international scene.

5. References

- Afidchao, M. M., Musters, C. J. M., Wossink, A., Balderama, O. F., & De Snoo, G. R. (2014). Analysing the farm level economic impact of GM corn in the Philippines. *NJAS - Wageningen Journal of Life Sciences*, 70, 113–121. <https://doi.org/10.1016/j.njas.2014.05.008>
- Agriculture and Agri-Food Canada. (2014). Foodservice Profile Indonesia. *Global Analysis Report*, July, 1–11. <https://doi.org/10.1016/j.njas.2014.05.008>
- Arfah, A., Olilingo, F. Z., Syaifuddin, S., Dahliah, D., Nurmiati, N., & Putra, A. H. P. K. (2020). Economics During Global Recession: Sharia-Economics as a Post COVID-19 Agenda. *The Journal of Asian Finance, Economics and Business*, 7(11), 1077–1085.
- Candemir, A., & Zalluhoglu, A. E. (2011). The effect of marketing expenditures during financial crisis: The case of Turkey. *Procedia - Social and Behavioral Sciences*, 24, 291–299. <https://doi.org/10.1016/j.sbspro.2011.09.105>
- Dahliah, D., Kurniawan, A., & Putra, A. H. P. K. (2020). Analysis and Strategy of Economic Development Policy for SMEs in Indonesia. *The Journal of Asian Finance, Economics and Business*, 7(5), 103–110.
- Devereux, M. B., & Yu, C. (2019). Evaluating the role of capital controls and monetary policy in emerging market crises. *Journal of International Money and Finance*, 95, 189–211. <https://doi.org/10.1016/j.jimonfin.2018.06.009>
- Efrat, K., Hughes, P., Nemkova, E., Souchon, A. L., & Sy-Changco, J. (2018). Leveraging of Dynamic export capabilities for competitive advantage and performance consequences: Evidence from China. *Journal of Business Research*, 84(August 2017), 114–124. <https://doi.org/10.1016/j.jbusres.2017.11.018>
- Fagerberg, J. (1988). International Competitiveness. *Economic Journal*, 98(391), 355–374. <http://www.jstor.org/stable/223337>
- Field, A., Miles, J., & Field, Z. (2013). Discovering Statistics Using SPSS. In *Sage* (Vol. 81, Issue 1). https://doi.org/10.1111/insr.12011_21
- Fizaine, F., & Court, V. (2016). Energy expenditure, economic growth, and the minimum EROI of society. *Energy Policy*, 95, 172–186. <https://doi.org/10.1016/j.enpol.2016.04.039>
- Hendrayati, H., & Gaffar, V. (2016). Innovation and Marketing Performance of Womenpreneur in Fashion Industry in Indonesia. *Procedia - Social and Behavioral Sciences*, 219, 299–306. <https://doi.org/10.1016/j.sbspro.2016.04.034>
- Khan, S. M., & Khan, Z. S. (2007). World Investment Report 2006, FDI from Developing and Transition Economies: Implications for Development by United Nations Conference on Trade and Development (UNCTAD). United Nations Publications, New York (2006). *Journal of Asian Economics*. <https://doi.org/10.1016/j.asieco.2007.02.015>

- Laurens, S., & Perdana Kusuma Putra, A. H. (2020). Poverty alleviation efforts through MDG's and economic resources in Indonesia. *Journal of Asian Finance, Economics and Business*, 7(9). <https://doi.org/10.13106/JAFEB.2020.VOL7.NO9.755>
- Lukman, A. F., Adebimpe, O., Onate, C. A., Ogundokun, R. O., Gbadamosi, B., & O. Oluwayemi, M. (2018). Data on expenditure, revenue, and economic growth in Nigeria. *Data in Brief*, 20, 1704–1709. <https://doi.org/10.1016/j.dib.2018.08.191>
- Narayan, P. K., Devpura, N., & Wang, H. (2020). Japanese currency and stock market—What happened during the COVID-19 pandemic? *Economic Analysis and Policy*, 68, 191–198. <https://doi.org/10.1016/j.eap.2020.09.014>
- Nguyen, H. H. (2019). The Role of State Budget Expenditure on Economic Growth: Empirical Study in Vietnam. *The Journal of Asian Finance, Economics and Business*, 6(3), 81–89.
- Nguyen, H. T. H., & Doan, T. N. (2017). The ASEAN Free Trade Agreement and Vietnam's Trade Efficiency. *Asian Social Science*, 13(4), 192. <https://doi.org/10.5539/ass.v13n4p192>
- Oktora, S. I., & Firdani, A. M. (2019). Natural Rubber Economics between China and Southeast Asia: The Impact of China's Economic Slowdown. *The Journal of Asian Finance, Economics and Business*, 6(2), 55–62.
- Olilingo, F. Z., & Putra, A. H. P. K. (2020). How Indonesia Economics Works: Correlation Analysis of Macroeconomics in 2010-2019. *Journal Asian Finance Economic and Business*, 7(8), 117–130.
- Piveteau, P., & Smagghue, G. (2019). Estimating firm product quality using trade data. *Journal of International Economics*, 118, 217–232. <https://doi.org/https://doi.org/10.1016/j.jinteco.2019.02.005>
- Soto, R. (2009). Dollarization, economic growth, and employment. *Economics Letters*, 105(1), 42–45. <https://doi.org/10.1016/j.econlet.2009.05.012>
- Sukirno, S. (2003). Pengantar Teori Mikroekonomi. In *Computer*. <https://doi.org/10.1038/cddis.2011.1>
- Sukirno, S. (2004). Makroekonomi teori pengantar. *Jakarta: PT Raja Grafindo Persada*.
- Sunderlin, W. D., Resosudarmo, I. A. P., Rianto, E., & Angelsen, A. (2000). The Effect of Indonesia's Economic Crisis on Small Farmers and Natural Forest Cover in the Outer Islands. *CIFOR Occasional Paper*.
- Warr, P. (2005). Food policy and poverty in Indonesia: a general equilibrium analysis. *Australian Journal of Agricultural and Resource Economics*, 49(4), 429–451.
- Yusof, R. (2007). Stock Market Volatility Transmission in Malaysia: Islamic Versus Conventional Stock Market. *Journal of King Abdulaziz University-Islamic Economics*. <https://doi.org/10.4197/islec.20-2.2>