

## FACTORS AFFECT OF THE INDONESIA EXPORT PERFORMANCE FOR COFFEE COMMODITIES 2012-2021

**Andi Killang Pakkanna<sup>1\*</sup>, Amna Purnama<sup>2</sup>, Andi Ashrafilah Killang<sup>3</sup>, and Andi Raisa Aqilah Killang<sup>4</sup>**

<sup>1</sup>\*Department Doctoral of Economics, Universitas Borobudur, Indonesia,  
[akp.andikillang@gmail.com](mailto:akp.andikillang@gmail.com)

<sup>2</sup>Chairwoman of Institute of National Export Acceleration Communication, Indonesia,  
[puangdaeng79@gmail.com](mailto:puangdaeng79@gmail.com)

<sup>3</sup>Department of Public Relation Study, Universitas Mercu Buana, Indonesia,  
[andiashrafilah28@gmail.com](mailto:andiashrafilah28@gmail.com)

<sup>4</sup>Student of Senior High School 78, West Jakarta, Indonesia, Indonesia,  
[andiraisaaqilah04@gmail.com](mailto:andiraisaaqilah04@gmail.com)

\*Corresponding author: [akp.andikillang@gmail.com](mailto:akp.andikillang@gmail.com)

**Abstract:** *Indonesia is one of the largest coffee-producing and exporting countries in the world. The role of coffee in the Indonesian economy in its position in the world economy illustrates that currently and in the future, coffee commodities have very potential and need to be developed, especially in terms of increasing coffee competitiveness and performance in the international market. Indonesian coffee exports are one of the most in-demand in the world. The quality of Indonesian Robusta coffee is recognized as superior to Vietnamese Robusta coffee. Some Indonesian Robusta coffees can get high marks so they are considered specialty coffees. In addition, the quality of Indonesian Arabica coffee is also recognized as being able to compete with Brazilian Arabica coffee. The purpose of the study was to analyze the effect of tourism, international coffee prices, total coffee production, land area of plantations producing smallholder plantations, and the exchange rate of the rupiah against the US dollar on the export performance of Indonesian coffee commodities. The research method in this study is the Error Correction Model. The research variables used were tourism, international coffee prices, the amount of coffee production, the area of plantations producing smallholder plantations, and the exchange rate of the rupiah against the US dollar which in this study functioned as an independent variable that affected the export performance of Indonesian coffee commodities, which functioned as the dependent variable. The results showed that (1) tourism, international coffee prices, total coffee production, land area of plantations producing smallholder plantations and the exchange rate of the rupiah against the US dollar simultaneously had a significant effect on the export performance of Indonesian coffee commodities, (2) tourism, international coffee prices, the amount of coffee production, land area of plantations producing smallholder plantations partially have a significant and positive effect on the export performance of Indonesian coffee commodities, (3) the exchange rate of the rupiah against the US dollar partially has a significant and negative effect on the export performance of Indonesian coffee commodities.*

**Keywords:** Exports, Tourism, International Coffee Prices, Coffee Production, Land Area, Smallholder Plantations, Rupiah Exchange Rate.

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### INTRODUCTION

Indonesia is one of the most important espresso-generating and exporting international locations in the world. most of its production is in the lower satisfactory robusta range. Indonesia is likewise famous for having several specialty coffees consisting of 'espresso luwak' (known as the maximum luxurious espresso in the world) and 'espresso Mandailing'. In phrases of agricultural commodities, coffee is the fourth biggest foreign exchange earner for Indonesia after palm oil, rubber, and cocoa.

Currently, Indonesia's coffee plantations cover a complete area of approximately 1.24 million hectares, 933 hectares of robusta plantations, and 307 hectares of arabica plantations. More than ninety of the total plantations are cultivated using small-scale farmers who own enormously small plantations of approximately 1-2 hectares, every. In evaluation to competition such as Vietnam, Indonesia no longer has large espresso plantations and consequently finds it greater difficult to maintain solid production volumes and fine, so the competitiveness of Indonesian coffee in the global market is much less sturdy (K. Pertanian, 2020).

The volume of coffee exports within the closing ten years tends to vary, ranging from (-) forty.15 percent to 12. eighty-two percent. In 2011 the entire export extent reached 346. forty-nine thousand lots, growing to 379.35 thousand in 2020. In contrast to the export quantity, the whole export price tends to lower, in 2011 the entire cost of people was \$1.036. sixty-seven million decreased to US\$ \$821.93 million. Indonesia's coffee exports in 1980 amounted to 238.68 thousand tons with an export cost of USD 656.01 million and improved in 2019 to 359.05 thousand lots or worth USD 883.12 million. the highest decline in Indonesia's coffee export quantity came about in 2018 via forty.15% or reached 187.83 thousand tons, in 2017 it reached 467. seventy-nine thousand lots to 279.96 thousand lots in 2018. This resulted in the value of Indonesia's coffee exports being additionally reduced with the aid of 31.10% or reaching an export price of USD 369.10 million (Kementan, 2016).

Through increasing the plantation place, Indonesia's espresso manufacturing within the subsequent 10 years is focused to attain between 900 thousand tons to one.2 million lots in keeping with yr. that is because of increasing global and home call for, requiring funding in the United States of America's coffee area. aside from increasing the amount of espresso beans, best is also predicted to increase due to technological improvements. however, Indonesia's espresso manufacturing per hectare is still low compared to other foremost espresso-generating international locations (Martauli, 2018).

The numerous factors that affect the performance of Indonesian espresso exports, of path those export activities will have an effect at the improvement and improvement of the US's economy and the welfare of the people. From the factor of welfare, espresso exports will enhance the welfare of coffee farmers. Farmers' welfare indicators are measured with the aid of looking at the Farmer's alternate charge (NTP), that's an assessment index among the fee acquired by way of farmers (It) and the index that has to be paid by using farmers (Ib). one of the elements used to degree the welfare of farmers is the ability inside the form of buying electricity of farmers to fulfill their everyday needs. the level of welfare of farmers may be visible from the growth inside the purchasing electricity of farmers' profits to meet their needs. If the shopping strength of farmers for goods fed on is higher, the change fee might be higher and vice versa if the purchasing strength of farmers for items consumed decreases, the trade charge will lower.

The development of Indonesian coffee production in the 1980–2020 period has increased, with an average growth rate of 2.62%. The highest increase in coffee production during this period occurred in 1998 by 20.08%, when coffee production reached 514.45 thousand tons, an increase of 86.03 thousand tons from the previous year's 428.42 thousand tons of rice-based coffee. In 2017, coffee production increased by 8.15% compared to the previous year. The development of coffee over the last ten years (2011–2020) has increased less, namely an average of 2.24% per year (P. D. dan S. I. Pertanian & 2020, 2020).

The development of coffee prices in the international market will affect the volume and value of coffee exports. If the price of coffee on the international market rises, producers tend to increase the volume of coffee exports. If the price drops, the supply of coffee on the international market will also tend to decrease. The price factor for coffee in the domestic and international markets, both directly and indirectly, will stimulate exporters

to increase their supply (Zuhdi, Windirah, & Maulanda, 2021). The following are international coffee price data based on data obtained from the Coffee C Futures Commodity Exchange from 2010 to 2021 (International Coffee Organization, 2021).

As one of the most exported commodities, coffee trade in the international market is strongly influenced by the exchange rate of the country where the commodity is traded. Changes in the US dollar exchange rate in the short term will cause greater price adjustments to Indonesian coffee prices (Triyanti, 2016). In this case, the higher the rupiah exchange rate, the lower the supply for coffee exports, and vice versa, the lower the rupiah exchange rate, the higher the supply for coffee exports. Furthermore, price is one of the factors that affect the quantity supplied in the sense that the export price is relative to the domestic price. In international trade, even though the exporting country is a price taker, the relative price of these goods will be affected by changes in foreign exchange rates or the exchange rate at which exports are marketed (Argaie, 2021).

From the tourism aspect, the relevance of international trade theory to the tourism economy has been recognized for a long time. Discussion of the relationship between tourism and international trade in the literature usually refers to two main approaches, namely: (i) the theory of comparative advantage and (ii) the Heckscher-Ohlin (H-O) theory. The motive considered most relevant to international trade is business travel. Because these trips are professional and are usually related to work or a position, This business tour is not only carried out by entrepreneurs or industrialists but also by exhibition visitors. Entrepreneurs, industrialists, and exhibition visitors also act as consumers, buyers, and sellers of certain products in the countries visited. Therefore, the success of business trips will directly create export and/or import flows in the following period.

## **LITERATURE REVIEW**

### **1. Export**

Export is the procedure of legally transporting goods from one country to another and Exports are very important in shaping the stability of bills of a rustic (Seyoum & Teshome, 2017).

in line with Griffin and Pustay, export is promoting products made in a single's very own United States to be used or resale in other nations. Exports have the gain of acquiring earnings and countrywide profits acquired through export activities could be controlled by way of the state to boost monetary growth. Exports additionally play a position in expanding the market for certain commodities or services and encouraging the enterprise to boom in productiveness due to an expanding market (Nagy & Jámbor, 2018).

Direct exports or indirect exports are not unusual, namely the perfect approach to enter the global market. Direct export has a more complex drift due to the fact the enterprise needs to determine who's chargeable for the enterprise's export commercial enterprise. A less complicated flow takes place in indirect exports as it does not require information or huge capital to join in (Elango & Pangarkar, 2021).

Export quantity is the amount of products or offerings exported from one U.S.A. to any other. The extent of a rustic's exports can be stimulated using the level of call for and delivery that influences the volume of exports, which includes the level of production, the fee presented and the forex charge of the US worried (Majaski, 2019).

### **2. Tourism**

Tourism is the activity of carrying out a trip to improve health, enjoy sports or rest, seek satisfaction, get enjoyment, know something, make pilgrimages, and so on. According to Stergiou & Airey (2018), the broad definition of tourism is travel from one place to another that is temporary and carried out alone or in groups to seek harmony, balance, and happiness with the environment in the dimensions of science, social, cultural, and natural (Stergiou & Airey, 2018).

According to Burkart, tourism is the movement of people temporarily and in the short term to destinations outside where they usually live and work and their activities while living in these destinations. People can travel in various ways for different reasons (Gren & Huijbens, 2012).

### *3. Production*

Production activities are activities that process, produce, and change the factors of production into something that has a higher level of efficiency. Production activities cannot be carried out if there are no materials that allow the production process to be carried out. The materials needed to carry out the production process include human resources, natural resources, capital, and expertise (Dyckhoff, 2018).

Technically, production is the process of transforming inputs into outputs, but the definition of production in the context of economics is much broader. The definition of production includes the purpose of the activity to produce output and the characters attached to it. Several Islamic economists provide different definitions of the notion of production, even though the substance is the same (Dormady, Roa-Henriquez, & Rose, 2019).

### *4. Producing Plant Land Area*

Producing Plant Land Area Land is a potential natural resource for development. Apart from being a place to live and a place to earn a living, land is also needed in almost all development sectors, such as agriculture, industry, mining, and others (Pitaloka, 2020) Mature plants, or TM, are plants that have been harvested regularly. Generally, this plant is over 3 years old and can live up to 25 years, or until replanting. In other words, producing plants (TM) are plants that, before the time of observation, had produced results and will still produce results, even though at the time of observation they were not producing.

### *5. Price*

According to Gregory Mankiw, the international price (world price) is the price of an item prevailing in the world market. If the international price is higher than the domestic price, then when trade starts, a country will tend to become an exporter. Producers in that country are interested in taking advantage of higher prices on world markets and starting to sell their products to buyers in other countries. Conversely, when international prices are lower than domestic prices when trade relations begin, the country will be interested in taking advantage of the lower prices offered by other countries (Mankiw & Taylor, 2011).

Price is the amount of value that customers expect to get from owning or using a product or service (Kotler & Keller, 2016). If the price of an item increases, producers tend to increase the number of goods produced. Price increases, on the other hand, can affect purchasing decisions. Buyers or customers at a certain price level will switch to substitute goods if they do not have adequate purchasing power. These substitute goods have a close relationship with primary goods and are relatively cheap (Glen Weyl, 2019)

### *6. The Exchange Rate*

The exchange rate is the price of one currency expressed against another currency. Exchange rates can be expressed as the amount of local currency needed to buy one unit of foreign currency (also called a direct quote) or, conversely, the amount of foreign currency needed to buy one unit of local currency (also called an indirect quote) (Ginting, 2013). The exchange rate of a currency, or exchange rate, is the ratio of the value of a country's currency to the currency of other foreign countries (Krueger, 2020).

## **RESEARCH METHOD**

The information analysis technique used to remedy the problem in this take a look at is a quantitative analysis technique the uses the evaluation of the mistake correction version or ECM (Error Correction Model) and more than one Regression with the OLS

(Ordinary Least square) approach due to the fact the facts is not stationary at the level, but stationary at the extent of differentiation and the two variables are cointegrated. The method used to look for the connection inside the quick term is a monetary concept and the answer to time series variables that aren't desk-bound at the extent and blunt regression. Obtuse regression is a chaotic regression, in which a significant regression outcomes from unrelated facts. to return to the equilibrium fee within a long time with the condition that there is a cointegration dating between the constituent variables.

## RESULTS AND DISCUSSION

### 1. Cointegration Test Result

Results and discussion contain an explanation of data collection, research location, and length of research time. The data obtained is the result of analysis, not raw data. In this section, the data is also explained using tables and figures accompanied by image captions. Results and discussion are written with several subtitles. The following is the writing of the subtitles.

**Table 1.** Cointegration Test Results

Trace Statistic	0.05 Critical Value	Probability	Keterangan
120,4484	95,75366	0,0004	Terkointegrasasi
Max Eigen Statistik	0.05 Critical Value	Probability	Keterangan
66,93712	40,07757	0,0000	Terkointegrasasi

**Source:** Data processed Eviews 10

From the test table above, it can be seen that the Trace Statistic value (120.4484) > Critical Value (95.75366) and the Probability value 0.0004 > 0.05, as well as the Max Eigen Statistic value (66.93712) > Critical Value (40.07757) and Probability value of 0.0000 > 0.05, can be concluded that the performance of Indonesian coffee exports, tourism, international coffee prices, coffee production, plantation area produces smallholders, and the Rupiah/US Dollar exchange rate in the long run, there is cointegration in the equation model.

### 2. Hypothesis Test Results

**Table 2.** Long-Term Estimation Results

Dependent Variable: Ln\_EKSPOR  
 Method: Least Squares  
 Date: 06/27/22 Time: 15:16  
 Sample: 2012Q1 2021Q4  
 Included observations: 40

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4,799389	1,499517	3,200624	0,0030
Ln_PARIWISATA	0,041529	0,019614	2,117333	<b>0,0416</b>
Ln_HARGA	0,526717	0,082039	6,420330	<b>0,0000</b>
Ln_PRODUKSI	0,368533	0,091509	4,255311	<b>0,0002</b>
Ln_LAHAH	0,193526	0,071215	2,717484	<b>0,0103</b>
Ln_KURS	-0,454776	0,106873	-4,027287	<b>0,0003</b>
R-squared	0,891293	Mean dependent var	11,30651	
Adjusted R-squared	<b>0,897424</b>	S.D. dependent var	0,276551	
S.E. of regression	0,084144	Akaike info criterion	-1,975086	
Sum squared resid	0,240729	Schwarz criterion	-1,721754	
Log likelihood	45,50173	Hannan-Quinn criter.	-1,883490	
F-statistic	77,45490	Durbin-Watson stat	1,817530	
Prob(F-statistic)	<b>0,000000</b>			

**Source:** Data processed Eviews 10

For the long term, the influence of Tourism on the export performance of Indonesian coffee commodities, based on the calculation results obtained in the estimation results table, shows statistically significant results at a tourism probability value of less than a ( $0.0416 \leq 0.05$ ), it can be concluded that the tourism variable has a significant and positive effect on the export performance of Indonesian coffee commodities.

In the long term, the influence of international coffee prices on the export performance

of Indonesian coffee commodities Based on the calculation results obtained in the estimation results table, statistically showing significant results on the probability value of international coffee prices smaller than ( $0.0000 \leq 0.05$ ), it can be concluded that the international coffee price variable has a significant effect and is positive on the export performance of Indonesian coffee commodities.

For the long term, the effect of coffee production on the export performance of Indonesian coffee commodities Based on the calculation results obtained in the estimation results table, statistically it shows significant results when the probability value of coffee production is smaller than ( $0.0002 \leq 0.05$ ), and it can be concluded that the coffee production variable has a significant and positive effect on the export performance of Indonesian coffee commodities.

In the long term, the influence of the Area of Producing Plantations of Smallholder Coffee Plantations on the export performance of Indonesian coffee commodities Based on the calculation results obtained in the estimation results table, statistically significant results in the probability value of smallholder coffee plantation producing land area are smaller than ( $0.0103 \leq 0.05$ ), and it can be concluded that the producing plantation area variable smallholder coffee plantation has a significant and positive effect on the export performance of Indonesian coffee commodities.

For the long term, the influence of the Rupiah Exchange Rate against the US Dollar has on the export performance of Indonesian coffee commodities. Based on the calculation results obtained in the estimation results table, statistically, it shows significant results in the probability value of the Rupiah Exchange Rate against the US Dollar is smaller than  $\alpha$  ( $0.0003 \leq 0.05$ ), it can be concluded that the Rupiah Exchange Rate variable against the Dollar America has a significant and negative effect on the export performance of Indonesian coffee commodities.

In the long term, the magnitude of the influence of tourism variables, international coffee prices, coffee production, area of producing plantations, and the Rupiah exchange rate against the US Dollar simultaneously have an influence on the export performance of Indonesian coffee commodities as shown by the results of the coefficient of determination, namely Adjusted R Square = 0.897424, This means that the magnitude of the influence of tourism, international coffee prices, coffee production, area of producing plantations and the exchange rate of the Rupiah against the US Dollar simultaneously has an influence on the export performance of Indonesian coffee commodities by 89.74 percent, and the remaining 10.26 percent is influenced by factors other than the model studied.

**Table 3.** Short-Term Estimation Results

**Dependent Variable:** D(Ln\_EKSPOR)  
**Method:** Least Squares  
**Date:** 06/27/22 **Time:** 15:21  
**Sample (adjusted):** 2012Q2 2021Q4  
**Included observations:** 39 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0,002173	0,011655	0,186442	0,8533
D(Ln_PARIWISATA)	1,826285	0,826385	2,209969	0,0332
D(Ln_HARGA)	0,593076	0,062613	9,472168	0,0000
D(Ln_PRODUKSI)	0,263381	0,070589	3,731201	0,0007
D(Ln_LAHDAN)	0,199647	0,073411	2,719578	0,0105
D(Ln_KURS)	-0,284808	0,102353	-2,782607	0,0087
RES(-1)	-0,890944	0,153089	-5,819772	0,0000
R-squared	0,855216	Mean dependent var	0,011360	
Adjusted R-squared	0,846819	S.D. dependent var	0,303785	
S.E. of regression	0,070056	Akaike info criterion	-2,317893	
Sum squared resid	0,157051	Schwarz criterion	-2,019305	
Log likelihood	52,19891	Hannan-Quinn criter.	-2,210762	
F-statistic	113,7563	Durbin-Watson stat	1,719442	
Prob(F-statistic)	0,000000			

**Source:** Data processed Eviews 10

For the short term, the effect of Tourism on the export performance of Indonesian coffee commodities, based on the calculation results obtained in the estimation results table, shows statistically significant results at a tourism probability value of less than  $\alpha$  ( $0.0332 \leq 0.05$ ), it can be concluded that the tourism variable has a significant and positive effect on the export performance of Indonesian coffee commodities.

In the short term, the effect of international coffee prices on the export performance of Indonesian coffee commodities Based on the calculation results obtained in the estimation results table, statistically showing significant results on the probability value of international coffee prices smaller than ( $0.0000 \leq 0.05$ ), it can be concluded that the international coffee price variable has a significant effect and is positive on the export performance of Indonesian coffee commodities.

In the short term, the effect of coffee production on the export performance of Indonesian coffee commodities Based on the calculation results obtained in the estimation results table, which show statistically significant results on the probability value of coffee production smaller than ( $0.0007 \leq 0.05$ ), it can be concluded that the coffee production variable has a significant and positive effect on the export performance of Indonesian coffee commodities.

In the short term, the effect of the area of productive plantations on smallholder coffee plantations on the export performance of Indonesian coffee commodities Based on the calculation results obtained in the estimation results table, statistically significant results in the probability value of smallholder coffee plantation producing land area are smaller than ( $0.0105 \leq 0.05$ ), and it can be concluded that the producing plantation area variable smallholder coffee plantation has a significant and positive effect on the export performance of Indonesian coffee commodities.

In the short term, the effect of the Rupiah Exchange Rate against the US Dollar has on the export performance of Indonesian coffee commodities. Based on the calculation results obtained in the estimation results table, statistically, it shows significant results in the probability value of the Rupiah Exchange Rate against the US Dollar is smaller than  $\alpha$  ( $0.0087 \leq 0.05$ ), it can be concluded that the Rupiah Exchange Rate variable against the Dollar America has a significant and negative effect on the export performance of Indonesian coffee commodities.

For the short term, the magnitude of the influence of tourism variables, international coffee prices, coffee production, area of producing plantations, and the exchange rate of the Rupiah against the US Dollar simultaneously have an influence on the export performance of Indonesian coffee commodities as shown by the results of the coefficient of determination, namely Adjusted R Square = 0.846819, meaning that the magnitude of the influence of tourism, international coffee prices, coffee production, area of producing plantations and the exchange rate of the Rupiah against the US Dollar simultaneously has an influence on the export performance of Indonesian coffee commodities by 84.68 percent, and the remaining 15.32 percent is influenced other factors outside the model studied.

## CONCLUSIONS AND SUGGESTION

Tourism, international coffee prices, total coffee production, area of plantations producing smallholders, and the exchange rate of the rupiah against the US dollar partially have a significant and positive effect on the performance of Indonesia's coffee commodity exports in the short and long term. The potential for Indonesian coffee exports in the future will continue to increase depending on several factors, such as international coffee prices, coffee production, the area of productive plantations, the rupiah exchange rate, and tourism aspects, in this case, the number of foreign tourist visits to Indonesia.

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