



## COMPETITIVENESS ANALYSIS OF ROBUSTA COFFEE IN PAMIJAHAN DISTRICT, BOGOR REGENCY WEST JAVA

Muhammad Rizal Amri<sup>1)</sup>; Nia Rosiana<sup>2)</sup>

<sup>1,2)</sup> Study Program of Agribusiness Department, Faculty of Economics and Management,  
IPB University

Corresponding author:

Email: <sup>2)</sup> [niarosiana@apps.ipb.ac.id](mailto:niarosiana@apps.ipb.ac.id)

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### ABSTRACT

One of the plantation commodities, which is Indonesia's leading export commodity is coffee. Increasing competition among competitors has an impact on the level of coffee competitiveness. The type of coffee cultivated is 81.44 percent, which is robusta coffee, and the remaining 18.56 percent is arabica coffee. The existence of government policies related to the elimination of Registered Coffee Exporters (ETK) needs to be studied because it will impact coffee competitiveness. This study aims to analyze comparative and competitive advantages and the impact of government policies on the competitiveness of robusta coffee farming in Pamijahan District, Bogor Regency. The purposive sampling method was used to collect data through questionnaires to robusta coffee farmers. Competitiveness analysis uses the Policy Analysis Matrix (PAM) method. The results showed that robusta coffee farming in Pamijahan District had a comparative advantage, namely DRC obtained 0.05 and competitive advantage with PCR value obtained 0.05. The overall impact of the ETK elimination policy has a positive impact on farmers on inputs, outputs, and inputs-outputs.

## INTRODUCTION

95.37 percent of Indonesia's coffee production is dominated by coffee cultivated on smallholder plantations (Ministry of Agriculture RI, 2018). The type of coffee cultivated is 81.44 percent, which is robusta coffee, and the remaining 18.56 percent is arabica coffee. Coffee plantations in Bogor Regency are growing and showing improvement. According to data from the Ditjenbun RI that West Java is the third

province with coffee production growth in Indonesia of 24.94 percent. In 2020, coffee production in West Java increased by 11.12 percent. This increase proves that West Java has the potential to develop coffee production in Indonesia. Bogor Regency is one of the regencies that is the center of coffee production in West Java Province. Table 1 shows the development of Indonesian coffee production from 2017-2020.

**Table 1. Development of Coffee Production in Indonesia in 2017-2020.**

No	Province	Coffee Production (Tons)				Growth Average
		2017	2018	2019	2020*)	
1	West Java	16,904	21,119	21,014	22,372	3.23%
2	North Sumatera	67,544	71,023	74,922	74,997	11.03%
3	Aceh	68,493	70,774	72,652	73,411	7.18%
4	Lampung	107,219	110,597	117,111	118,149	9.63%
5	South Sumatera	184,166	193,507	191,081	191,081	3.75%

Source: Ditjenbun (2021)

Remarks: \*) In 2020 provisional figures

From Table 1, it can be seen that the level of coffee development in Indonesia is relatively increasing and growing every year. West Java Province is one of the coffee producers in Indonesia, which has been increasing and developing since the previous year. Although in 2019 it had decreased from 2018, which was 21,014 tons, in 2020, it increased again and became the highest yield of 22,372 tons. Coffee is also one of West Java's mainstay and prima donna plantation commodities. The following is the development of coffee production in the province of West Java in 2017-2020, described in Table 2.

Based on Table 2, the level of coffee production in West Java Province has increased significantly every year. Bogor is also a district with a high production level of 3,854 tons in 2020. Bogor Regency experienced immense average growth among regencies/cities in West Java; although in 2020 there was a decline, the rate of decline was minimal, namely 0.37 tons. This decrease still makes the production level in 2020 more remarkable than in 2017, which amounted to 2,962 tons. Therefore, coffee in West Java Province, especially in Bogor Regency, can have good potential and production levels yearly.

**Table 2. Development of Coffee Production in West Java Province in 2017-2020.**

No	Regency/City	Coffee Production (Tons)			Growth Average
		2017	2019	2020	
1	Bogor	2,962.00	3,854.37	3,854.00	30.1%
2	Bandung	5,401.00	6,798.21	6,798.00	25.9%
3	Garut	2,464.00	2,949.00	2,949.00	19.7%
4	Tasikmalaya	2,740.00	1,498.91	1,499.00	-45.3%
5	Kuningan	780.00	1,286.31	852.00	9.2%

Source: BPS Jabar (2021)

Bogor Regency is one of the areas with high coffee yields, even though the number of plantation crops is relatively limited. Based on business management, plantations in Bogor Regency are divided into two, namely large plantations and smallholder plantations. Bogor Regency is also the district with the most extensive community robusta coffee plantation in West Java, which is spread over 28 sub-

districts, and one of the centers for robusta coffee production in Bogor Regency in Pamijahan District, namely in Purwabakti and Ciasihan villages. The realization of Robusta Coffee production in 2020 is 4,004 tons, but it is targeted that in 2021 it will be 3,698 tons. Furthermore, millennial farmers in Bogor Regency are empowered with a realization level of 18 farmer groups in 2020 and a 2021 target of 150 farmer groups (Distanhorbun Bogor Regency, 2020).

The level of coffee productivity in the Regency is spread over several sub-districts. Table 3 shows productivity in ten main sub-districts with varying levels of productivity. The level of productivity will affect coffee sales results. Generally, farmers sell coffee to fulfill household needs (Simorangkir and Rosiana, 2022; Lestari dkk, 2017).

One of the places where coffee plantations are planted is in Pamijahan District, namely Ciasihan and Purwabakti villages, where robusta coffee is planted. Table 3 shows that Pamijahan occupies the sixth position with a good and relatively high productivity level of 827.8 kg/ha. There are several advantages to Ciasihan and Purwabakti villages, starting from the farmers in this village. They are already advanced and are also supported by village-run business management such as BUMDES, which is well organized and neatly and nicely.

This is, of course, an added value and something that is already good and needs to be developed optimally because, with these advantages, Ciasihan Villages and Purwabakti Villages should be able to become sizeable coffee-producing production centers. The production level in Pamijahan District, especially in Ciasihan and Purwabakti villages, is still relatively low compared to other sub-districts, so this can be a reason to see the level of competitiveness of Pamijahan District in the domestic market and export market. Rosiana et al. (2018) and Yusuf (2020) stated that increasing competitiveness and strength of competition in the export market could be done by improving the quality and continuity of domestic Robusta coffee following world consumer demand. In responding to the demand for coffee based on global certification in the marketing process to ensure coffee quality, it is necessary to provide information on the origin of coffee from each production center area (Rosiana, 2020; Al Zarliani & Mulyani, 2022).

**Table 3. Robusta coffee productivity in Bogor Regency (Kg/ha)**

No	Subdistrict	Productivity
1	Tanjungsari	904.4
2	Cigudeg	902.9
3	Megamendung	851.0
4	Jonggol	850.0
5	Sukamakmur	831.3
6	Pamijahan	827.8
7	Tenjolaya	786.1
8	Babakan Madang	719.0
9	Cariu	700.0
10	Sukajaya	692.4

Source : Distanhorbun Kab. Bogor (2018)

Zen and Budiasih (2018), productivity is a source of sustainable economic growth in the long term. Hanafie (2010), also mentions that two main factors cause differences in productivity, namely first, biological constraints, such as differences in varieties, attacks by plant pest organisms (OPT), soil fertility, and others. Less intensive plant maintenance, planting material, not from superior clones, pest or disease attacks, and old plant age are the causes of low productivity (Listiyati et al 2017). Coffee is Indonesia's leading commodity and is a source of foreign exchange, providing employment and a source of income for farmers and other economic actors (Pribadi and Sudiana, 2021). However, in export business activities, especially coffee, it can only be done and must go through institutions or business entities Registered Coffee Exporters (ETK). So it can be said that there are restrictions on carrying out coffee export activities because the government tries to regulate and organize coffee export activities so that the quality and quality of coffee is guaranteed and well competitive in the world market. However, with the increasing production of coffee and allowing for more and more coffee commodities to be exported, the government has made new policies regulating coffee export activities which are expected to also have a good impact on robusta coffee farmers.

There have been a lot of policies issued and set by the government to support the realization of Indonesian coffee that is competitive at the national and world market levels. In 2021, in which the government also sees that robusta coffee in Indonesia has the potential to be exported even more, so the government issues and stipulates a policy of Minister of Trade No. 19 of 2021 concerning export policies and arrangements related to the elimination of Registered Coffee Exporters (ETK). The Minister of Trade abolished the coffee export policy, which previously could only be carried out by holders of Registered Coffee Exporters (ETK) to become coffee commodities, and their processed products were free to be exported. A number of coffee exports in Indonesia have great potential promising for economic development (Herfinaldy, 2017; Darmawan dkk,2021).

Robusta coffee is also one of Indonesia's export products in the world's eyes. According to Rosiana (2020), Indonesia, the world's fourth largest coffee exporting country, has to fluctuate in coffee competitiveness. Besides that, there has also been a shift in the dynamic export market position in the world coffee market. An integrated and structured global market chain is needed to increase the competitiveness of the Indonesian coffee industry in the international market (Ibrahim and Zailani, 2010). Although Indonesian coffee is currently still competitive, the share of Indonesian coffee exports in the international market is decreasing. The policy of eliminating Registered Coffee Exporters (ETK) does not directly impact robusta coffee farmers. However, this policy certainly affects productivity and domestic coffee demand because coffee is an export product for Indonesia. Increasing productivity through competitiveness analysis can have a positive impact on farmers (Alfachry, 2020; Viana dkk 2020).

It is permitted that all parties can export coffee; of course, coffee demand and selling price at the national market level is getting better and higher. With this ETK elimination policy, some changes affect the input, output, and input-output indicators that affect the competitiveness of the Robusta coffee commodity in Pamijahan District, Bogor Regency, West Java. Based on the preceding, the formulation of the problem that the author wants to write and formulate for research in the study are 1) how is the comparative and competitive advantage of robusta coffee farming in Pamijahan District, Bogor Regency? 2) what is the impact or influence of the policy on the elimination of Registered Coffee Exporters ( ETK) on the competitiveness of robusta coffee farming in Pamijahan District, Bogor Regency?

## RESEARCH METHODS

### Method of Collecting Data

This research was conducted in Ciasihan village and Purwabakti village, Pamijahan sub-district, Bogor regency, West Java province. The choice of research location was made purposively. The consideration for determining the research location is because Pamijahan District is the location for coffee farming development by the Bogor Regency government and one of the sixth largest robusta coffee production centers in Bogor Regency (Table 3). Ciasihan Villages and Purwabakti Villages became the research locations because the farmers in these villages were quite advanced in the robusta coffee production process and were supported by good BUMDES so that the competitiveness of the coffee commodity in the village could be seen. The time of research was carried out from November 2021 to July 2022.

The method used in data collection in this study was a sample carried out in two villages, namely Ciasihan Village and Purwabakti Village, Pamijahan District, Bogor Regency, West Java Province, which was based on data from the Pamijahan District government. The number of farmers in Pamijahan village is as many as 86 people, and farmers in Ciasihan village are as many as 96 people, so the total population of farmers in the two villages is 182 people.

Determination of respondents was conducted using non-probability sampling, namely purposive sampling, which was obtained and obtained based on suggestions and recommendations from high-ranking officials or figures in the two villages. According to Arikunto (2006), if the population is more than 100 people, then the number of samples that can be taken is at least 20-25%, so the number of samples used in this study was obtained from as many as 38 farmers with the division of the number of farmers, namely 18 coffee farmers from Purwabakti Village and 20 coffee farmers from Ciasihan Village based on a large number of coffee farmers in each research village.

### Data Analysis Method

The analytical method used in this study uses the Policy Analysis Matrix (PAM) method to analyze the level of competitiveness of robusta coffee commodities in Ciasihan and Purwabakti villages, Pamijahan sub-district, Bogor district. This study examines the comparative and competitive advantages of Robusta coffee commodities in Pamijahan District through the two villages and also the impact of the ETK elimination policy on the competitiveness of Robusta coffee. The data processing is done using the software as a data processing tool.

### Policy Analysis Matrix

Policy Analysis Matrix (PAM) is an analysis that incorporates various policies that can affect agricultural production revenues and costs in the form of a matrix with the main components including revenue, cost, and profit. In looking at the competitiveness of coffee farming in Pamijahan District, Bogor Regency, use comparative and competitive advantages against several indicators (Monke and Pearson, 1989), namely:

1. Domestic Resources Cost Ratio (DCRC)

In the analysis of competitiveness, two indicators need to be considered. Analysis: First is the Domestic Resources Cost Ratio (DCRC), which is an indicator of the ability of the commodity system to finance domestic factors at the

social price level, where there are also two values, namely DCRC greater than one and DCRC less than 1.

## 2. Private Cost Ratio (PCR)

Second, namely, the Private Cost Ratio (PCR) indicator, which in this indicator, PCR value is the ability of the commodity system to finance domestic factors at private prices.

Researchers used several impacts of government policies on robusta coffee farming in Pamijahan District, Bogor Regency. Consists of:

### a. Government policy on output

The impact of government policy on output can be seen from two indicators, OT (transfer output) and NPCO (Nominal Protection Coefficient on Tradable Output).

### b. Government policies on inputs

The impact of government policies on inputs can be seen from two indicators, namely IT (transfer input), NPCI (Nominal Protection Coefficient on Tradable Input), and FT (transfer factor).

### c. Government policies on outputs-inputs

The impact of government policies on outputs-inputs can be seen from two indicators, namely NT (net transfers), EPC (Effective Protection Coefficient), PC (profit coefficient), and SRP (Subsidy Ratio to Producers).

## Competitiveness Analysis

Competitiveness is one of the concepts of a description of a producer's ability to produce a commodity (Salvatore, 1997). Competitiveness is the ability of the business sector or company in an area to generate high income and a more even level of wealth for the population (Abdullah, et al, 2002). The first stages are carried out by determining the inputs for robusta coffee farming. The calculation includes tradable (fertilizer, seed, land, and production equipment rental costs) and non-tradable (labor costs) needed in robusta coffee farming and incur costs.

The second stage to measure comparative and competitive advantage can use the Policy Analysis Matrix approach or PAM (Murtiningrum *et al*, 2014; Handayani, 2020). The analysis is the allocation of inputs into tradable and non-tradable, then analyzed using the PAM method to see comparative and competitive advantages as well as personal and social benefits. Besides that the impact of changes due to the implementation of government policies. PAM can determine a policy's impact by improving the competitiveness level.

## Empirical Model

The PAM method analyses economic efficiency, the magnitude of government incentives or interventions, and their impact on the commodity system. Another advantage of the PAM method is to assess competitive advantage as well as DRC and social advantages to assess comparative advantage. The results of the Policy Analysis Matrix (PAM) will provide information about the economic efficiency (comparative advantage) and competitiveness profitability (competitive advantage) of a commodity and the impact of government policies on these commodities. The contents and descriptions of the PAM table in the study are described in Table 4 below, which are the variables and indicators that will be used to analyze the competitiveness and impact of the policies passed by the government.

**Table 4. Policy Analysis Matrix**

Details	Revenue	Cost		Profit
		Tradable Input	Domestic Factor	
Private Price	A	B	C	D
Social Price	E	F	G	H
Divergence	I	J	K	L

Source: Monke and Pearson (1989)

Information:

- Private Profit (PP) :  $A - (B+C)$
- Social Benefit (SP) :  $E - (F+G)$
- Transfer Output (OT) :  $A - E$
- Transfer Input for Tradable Input (IT) :  $B - F$
- Transfer Factor for Non-Tradable (FT) :  $C - G$
- Net Transfer (NT) :  $D - H$
- Private Cost Ratio (PCR) :  $C / (A - B)$
- Domestic Resource Cost Ratio (DRC) :  $G / (E - F)$
- Nominal Output Protection Coefficient (NPCO) :  $A / E$
- Nominal Input Protection Coefficient (NPCI) :  $B / F$
- Effective Protection Coefficient (EPC) :  $(A - B) / (E - F)$
- Coefficient of Profit (PC) :  $D / H$
- The ratio of Subsidy to Producers (SRP) :  $L / E$

## RESULTS AND DISCUSSION

### Overview

Pamijahan Subdistrict is located in Bogor Regency, West Java Province. The area of Pamijahan District is administratively around 12,532.36 Ha. The Cibungbulang District borders the boundaries of the Pamijahan District in the north; the south bordering Sukabumi Regency; in the west, it is bordered by Leuwiliang District; while in the east, it is bordered by Tenjolaya District. Administratively, 15 villages and sub-districts are part of the Pamijahan District. The villages that became the research locations were two villages, namely Ciasihan Village and Purwabakti Village.

The potential of the two research sites is that the two villages have extensive coffee plantations, and almost every resident in the two villages has coffee fields with varying areas (Primary data, 2021). From these two things alone, it can be seen that the great potential to become a center for the robusta coffee industry is very large, and it is possible to realize it by conducting good and structured coaching and empowerment of coffee farmers. In addition, the two villages are also located in the highlands, which are under the foot of Mount Halimun Salak, which is a very suitable place for planting and cultivating coffee plants. Robusta coffee farming in Pamijahan District, Bogor Regency, is carried out in these two villages because the farming location is suitable for the growth and development of robusta coffee.

### Robusta Coffee Competitiveness Analysis in Pamijahan Subdistrict

Robusta coffee in Pamijahan Subdistrict in this study was analyzed using the Policy Analysis Matrix to determine the level of competitiveness of robusta coffee in the Pamijahan District. The level of competitiveness of robusta coffee is analyzed through the comparative and competitive advantages of robusta coffee in the Pamijahan District. The research's comparative and competitive advantages analysis is used to study the ability and feasibility of Robusta coffee in Pamijahan District to compete in domestic and international markets.

**Table 5. Policy Analysis Matrix Robusta Coffee in Pamijahan District**

Details	Revenue	Cost Production		Profit
		Tradable	Non-Tradable	
Private Price	5.034.665	777.306	193.018	4.064.341
Social Price	4.558.417	719.903	198.195	3.640.319
Divergence	476.248	57.403	(5.177)	424.022

Source : Processed Primary Data, 2022

The data used in this study is data on revenues and costs of Robusta coffee production in 2021. The components needed in the research come from price data that is separated based on private and social prices. The next step is to determine the domestic and foreign components in the input-output of Robusta coffee farming. Then the existing components are grouped into financial analysis and economic analysis. The results of this research analysis can be seen in the PAM analysis table in Table 5.

**Table 6. Indicators in the PAM Table Regarding Robusta Coffee in Pamijahan District**

No	Indicators	Value
<b>Competitiveness Analysis</b>		
1	Private Profit (PP)	4.064.341
2	Social Profit (SP)	3.640.319
3	Private Cost Ratio (PCR)	0,05
4	Domestic Resource Cost Ratio (DRCR)	0,05
<b>Government Policy Impact</b>		
<b>Input Policy</b>		
5	Input Transfer on Input Tradable (IT)	57.403
6	Nominal Protection Coefficient Input (NPCI)	1,08
7	Factor Transfer on Non-Tradable (FT)	(5.177)
<b>Output Policy</b>		
8	Output Transfer (OT)	476.248
9	Nominal Protection Coefficient Output (NPCO)	1,10
<b>Input-Output Policy</b>		
10	Effective Protection Coefficient (EPC)	1,11
11	Net Transfer (NT)	424.022
12	Profit Coefficient (PC)	1,12
13	Subsidy Ratio Producer (SRP)	0,10

Source : Processed Primary Data, 2022



From Table 5, it can be seen that the results of robusta coffee production in Pamijahan District, Bogor Regency in 2022 experienced good results and provided economic and financial benefits, namely from the positive value shown by private benefits and social benefits. It can also be seen that revenue, production factor costs (tradable and non-tradable), and profits from robusta coffee in Pamijahan District, Bogor Regency are positive. In addition, there is a divergence between private prices (government policies affect) and social prices (government policies do not influence). Divergence is the difference between the first and second lines due to government policies or market distortions.

Revenues and profits have a positive divergence, which means that government policies have a good effect and cause private prices (actual conditions) to receive better and larger revenues and profits than in conditions before the policy (social prices). Cost inputs tradable also experience a positive divergence in which the cost of production factors incurred at private prices is higher than before a policy (social prices). Other indicators in this study that will also be obtained and known to carry out the analysis process can also be seen in Table 6.

### **Comparative and Competitive Advantages**

To analyze comparative advantage through PAM analysis can be seen from the ratio of domestic resource costs (DRC) and profits (SP) as a measuring tool. From Table 6, it is obtained that the Domestic Resource Cost Ratio (DRC) is 0.05 units, which means that robusta coffee in Pamijahan District has a DRC value that is less than one and close to zero, indicating that there has been sound economic efficiency so that robusta coffee in Pamijahan District has a comparative advantage. The DRC value, which is less than one and is getting closer to zero, also shows that the level of competitiveness is getting better, and the costs needed to produce robusta coffee in the country, especially in Pamijahan District, Bogor Regency, are cheaper than importing from other countries or other regions. According to Desianti (2002) that the competitiveness of Indonesian coffee has comparative and competitive advantages, which means that each region is able to finance a coffee production system cheaper than if it imports coffee.

The social profit (SP) shown from robusta coffee in Pamijahan District is Rp. 3,640,319 per hectare per harvest. Social benefits differ between the total revenue obtained and all costs incurred at social prices. The positive value of social benefits indicates that the commodity can expand even when there is no intervention from the government. Thus, it can be stated that the high value of social benefits will increase the comparative advantage of robusta coffee farming in Pamijahan District, Bogor Regency. This condition shows that the Robusta coffee commodity system is socially more profitable; this also means that in the condition where input and output prices are calculated based on social prices, and there is no market distortion, Robusta coffee production will provide more significant profits.

The competitive advantage of robusta coffee in Kematan Pamijahan can be seen from the Private Profit (PP) and Private Cost Ratio (PCR) indicators. PCR can be used to determine how efficient the finances allocated in the use of resources in the Thousands Coffee Farming in Pamijahan District are. From Table 6, it is obtained that the Private Cost Ratio (PCR) value is also 0.05 units which means that robusta coffee in Pamijahan District has a PCR value of less than one and close to zero (0); this also indicates that there has been sound economic efficiency so that Robusta coffee in Pamijahan District has a competitive advantage. Based on this analysis, it is known that the robusta coffee farming system in Pamijahan District has a competitive advantage

because it has a PCR value of less than one. This shows that the robusta coffee farming system in Pamijahan District can finance its domestic factors at private prices.

The Private Profit (PP) shown from Robusta coffee in Pamijahan District is IDR 4,064,341 per hectare per harvest. This value is the difference between all costs incurred and the revenue earned at private prices. Thus, it can be said that the increase in the value of private profits will impact the competitive advantage of robusta coffee farming in the Pamijahan District. Robusta coffee farming in Pamijahan District cannot be separated from government policies that cause differences in input-output prices to social and private prices. So it is necessary to analyze the impact of government policies to determine the right strategy for robusta coffee farming in Pamijahan District, Bogor Regency. A positive private profit value indicates that the commodity can expand unless resources are limited or alternative commodities are more profitable. So robusta coffee farming in Pamijahan District has a comparative advantage and competitive advantage, so it can be interpreted that robusta coffee farming in Pamijahan District, West Java has a good level of competitiveness.

### **Analysis of the Impact of Government Policies on Robusta Coffee Competitiveness in Pamijahan District, Bogor Regency**

Government policies can determine the success of business development to increase state revenue. However, a policy set by the Minister of Trade regulates coffee export policies, namely Minister of Trade Regulation 19 of 2021 concerning the Elimination of Registered Exporters of Coffee (ETK). The Minister of Trade Regulation abolished the coffee export policy, which initially exported coffee and its processed products only by holders of Registered Coffee Exporters (ETK) to become accessible for export.

### **The Impact of ETK Elimination Policy on Robusta Coffee Seed Prices**

The government's policies on the price of Robusta coffee seeds can be known by analyzing using the PAM matrix. Policies imposed by the government have an impact on production input factors. Indicators that affect the input can be seen from the value of Input Transfer for Tradable Input (IT), Nominal Input Protection Coefficient (NPCI), and Transfer Factor for Non-Tradable (FT).

From Table 6, the IT value is 57,403 per hectare per harvest. This positive value and more significant than zero indicates that the private price of tradable inputs is more significant and increases compared to the value of tradable inputs at the social price level, which also means that government policies make the prices of tradable inputs at the private price level increase in line with the increase in prices at the level of private prices. Private price.

It is also found from Table 6 that the NPCI value is 1.08 units, which is greater than one ( $NPCI > 1$ ), which indicates that the existence of the coffee export exemption policy also has an impact and makes tradable input prices experience price increases at the personal level. . This makes robusta coffee farmers pay higher tradable inputs at private prices than before the policy (social prices). The amount of FT in Table 6 also shows a negative value of – IDR 5,177 per harvest. This negative FT value means that farmers have a positive impact on policies set by the government, which makes farmers experience a decrease in costs in non-tradable production inputs that must be issued. This FT value also shows that the cost of non-tradable production inputs is lower at private prices than production inputs before the policy.

The policy of eliminating ETK impacts the tradable of robusta coffee farmers, namely the price of robusta coffee seeds in conducting their farming. This policy impacts the purchase price of robusta coffee seeds that must be purchased by robusta coffee farmers where prices increase, thus making farmers have to increase the costs incurred to carry out their farming. This condition shows that the policy of eliminating ETK causes the price of coffee seeds to increase and impacts increasing production inputs by robusta coffee farmers.

### **The Impact of the Elimination of ETK Policy on the Selling Price of Robusta Coffee**

The impact of the policies imposed by the government on the selling price of Robusta coffee can also be seen from two indicators, namely Transfer Output (TO) and Nominal Protection Coefficient on Output (NPCO) or nominal output protection coefficient. Table 6 shows that the OT and NPCO of robusta coffee in the Pamijahan District are positive, with the OT value of IDR 476,248 per hectare per harvest. This shows that the government's policy has positively impacted robusta coffee farmers in Pamijahan District, which is seen from the private price obtained by farmers to be higher than the social price (before the government policy). The NPCO value is 1.10 units, and the result is greater than 1 ( $\text{NPCO} > 1$ ). It can also be interpreted that with the government's policy to free all parties to

carry out coffee export activities, the selling price of coffee (private price) is higher than the social price. Pamijahan sub-district received an additional 10 percent of the price it should have received in the absence of policy intervention.

After the policy of the Minister of Trade No. 19 of 2021, which regulates the abolition of ETK, the selling price of robusta coffee received by robusta coffee farmers in Pamijahan District has increased and has benefited farmers. Although there are production costs that farmers must incur, they also increased due to the rising price of coffee seeds after the policy. It can be stated that government policies affect the selling price of robusta coffee and positively impact robusta coffee farming in Pamijahan District, Bogor Regency.

### **Impact of Elimination of ETK Policy on Seed Prices and Selling Prices of Robusta Coffee**

The analysis of government policies on seed prices and selling prices of Robusta coffee is a combined analysis of input and output policies to identify how big or small the impact of policies on the Robusta coffee farming system is. From Table 6, the NT value obtained from the research results is Rp. 424,022 per hectare per harvest shows a positive value ( $\text{NT} > 0$ ). This value can be interpreted that farmers experience an increase in surplus profits due to the government's implementation of policies on robusta coffee exports, which makes the profits from robusta coffee production in Pamijahan District increase by IDR 424,022 per hectare per harvest. It can also be indicated that the government's policy is already in favour of farmers by providing additional benefits received by farmers.

Table 6 also shows that the EPC value greater than one ( $\text{EPC} > 1$ ) means that the government increases the price of input or output above its efficient price, which means that the government's policy to protect domestic producers is effective. Table 6 also shows that the EPC value of robusta coffee in Pamijahan District is 1.11 units, which means that government policies have been effective and have had a good impact on robusta coffee farmers in Pamijahan District to increase the competitiveness of robusta

coffee products. The PC value is also obtained at 1.12 units, which is greater than one ( $PC > 1$ ), which can also be interpreted that the government policy having a positive impact and increasing the profits received by farmers more than before or without the policy. This also shows that the government has made good incentives for robusta coffee farmers in Pamijahan District, which has increased the profits of robusta coffee farmers.

Other indicators are included in the analysis of the impact of government policies on input and output, namely SRP. Table 6 shows that the number of SRP values is 0.10 units, which is smaller than one ( $SRP < 1$ ). This can be interpreted that the applicable policy causes robusta coffee farmers in Pamijahan District to issue input costs of production that are 10 percent greater than their economic costs (opportunity cost), which also makes government policies tend to be detrimental to efforts to increase the competitiveness of robusta coffee in Pamijahan District. Based on the analysis results, it can be concluded that the government's policy on the input and output of Robusta coffee farming in Pamijahan District, Bogor Regency, and West Java can be declared effective. Regulation of the Minister of Trade No. 19 of 2021 regarding the elimination of Registered Coffee Exporters (ETK) has a positive impact. It has increased the competitiveness of robusta coffee farming in Pamijahan District, Bogor Regency, West Java. However, there is an increase in the price of robusta coffee seeds, but the selling price of robusta coffee has also increased and is still profitable for the community. Robusta coffee farmers in Pamijahan District, Bogor Regency.

## **CONCLUSIONS AND POLICY IMPLICATIONS**

### **Conclusions**

Based on the research that has been done, it is concluded that Robusta coffee in Pamijahan District, Bogor Regency, West Java has financial and economic advantages. This can be seen from the amount of private profit and social benefit, which is greater than zero; namely, the amount of social benefit obtained is Rp. 3,640,319 per hectare per harvest, which means that Robusta coffee in the Pamijahan Subdistrict can expand even when there is no intervention from the government, and profits private sector amount to IDR 4,064,341 per hectare per harvest, which means that the commodity is capable of expansion unless resources are limited or there are alternative commodities that are more profitable.

Robusta coffee in Pamijahan District also has a comparative and competitive advantage. This is indicated by the DRC value, which is less than 0.05 units which indicates that there has been good economic efficiency, so Robusta coffee in Pamijahan District has a comparative advantage. There is also a PCR value of less than one and equal to 0.05 units, which means there has been good economical efficiency. Hence, Robusta coffee in Pamijahan District has a competitive advantage.

The policy issued by the government regarding the elimination of registered coffee exporters (ETK), namely Minister of Trade Regulation Number 19 of 2021, has had a good impact on robusta coffee farmers in Pamijahan District, Bogor Regency. The input policies, output policies, and input-output policies at the research sites as a whole have a positive impact because, with these policies, coffee export activities become open to anyone who wants to export coffee or its processed products which makes coffee prices after the policy increase which makes coffee prices rise. Private output is greater than the social price and increases robusta coffee's competitiveness after implementing the ETK elimination policy.

## Recommendations

From the results of the study, it can be suggested that the existence of a policy of eliminating ETK, which has a positive impact on farmers, must be maximized so that robusta coffee farmers in Pamijahan District should maximize production by carrying out a better maintenance process by cutting branches of coffee trees that have already been planted. Not productive in producing fruit, so the branches are fewer and leaner, but productivity produces more and denser coffee cherries; this will increase the productivity of robusta coffee in Pamijahan District, Bogor Regency.

In dealing with the policy regarding the elimination of ETK, suggestions for the government are for the Pamijahan District Government and the Bogor Regency Government to be the initiators in cooperating with coffee farmers and wholesalers to establish a good coffee exporter management system. This can be done by holding training or programs for establishing evenly distributed coffee exporters in each region. With the formation of new coffee exporters who are good at taking advantage of opportunities and not harming farmers, the impact of each government policy is increasingly widespread and evenly distributed to the community and farmers in particular. So, more commodities or processed coffee are exported with better competitiveness.

The subsequent research that the writer can suggest is to explain more about the strategies and targets of government policies on the comparative advantage and competitive advantage of robusta coffee farming in Pamijahan District, Bogor Regency. Thus, further research can be carried out that discusses the strategy for developing the competitiveness of robusta coffee in the face of free trade in the domestic and international markets.

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