

Comparative Analysis of Indonesian and Vietnamese Coffees Competitiveness in the World Market

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Abstract - Countries in the world in an open economy are very dependent on exports to be able to improve their economy. Coffee is one of the plantation commodities which has an important role in economic activities in Indonesia. How the competitiveness of Indonesian and Vietnamese coffees as a country that contributes to coffee suppliers to the world market needs to be known in order to obtain a picture. The purpose of this research is to study the level of competitiveness of Indonesian and Vietnam coffees in the world market. The method used to calculate competitiveness was Revealed Comparative Advantage (RCA) and Dynamics Export Product (EDP). During the period of 2007-2017 Indonesian and Vietnamese coffees were competed on the world market. Indonesian coffee products are in demand in the world market, as indicated by the competitive position of Indonesian coffee products on the world market). The results show that Indonesian coffee is competitive with RCA values of 26,31. The EDP results shows that Indonesian coffee products are competitive with rising stars. while the competitiveness of Vietnamese coffee with RCA values of 32,54 is in the position of Lost Opportunity. One form of effort that can be taken by Indonesia to maintain and improve the competitiveness and performance of the coffee.

Keyword - Coffee, Competitiveness, EPD, Indonesia, RCA, Vietnamese.

I. INTRODUCTION

Coffee is one of the plantation commodities that has an important role in economic activities in Indonesia, because it is one of the main export commodities of Indonesia's foreign exchange earner. The Indonesia Coffee Exporters Association (AEKI) states that Indonesian coffee has been world-famous and is accepted internationally. This is an opportunity for Indonesia to be able to take advantage of the positive impact of the trade activities (AEKI 2017).

The growth of world coffee production (in the form of raw coffee bean production) from 1980 to 2015 seems to fluctuate but tends to increase. In 1980, coffee production in the world reached 5.144.280 tons and increased in 2015 to 9.007.320 tons. The average production growth during this period was 2,09 percent with the world's highest coffee production in 2013 which reached 9.340,26 tons (Ministry of Agriculture, 2016). The world coffee production is mostly produced by Brazil with an average production during the 2011-2015 period reaching 3.212.400 tons or contributing 35,51 percent to the world average coffee production in the same period. Next is Vietnam with a contribution of 18,44 percent or an

average yield of 1.758.000 tons, followed by Colombia with an average production of 676.284 tons (7,47 percent), Indonesia with an average production of 572.460 tons (6,33 percent), and Ethiopia with an average production of 383.580 tons (4,24 percent), the rest are other countries with an average production of 2.737.206 tons (28,01) percent, to be more clear see Figure 1.

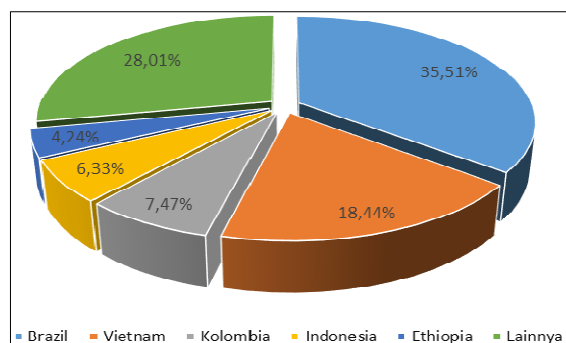


Figure 1. Center for World Coffee Production with Percentage of Average Production in 2011-2015
Source: Ministry of Agriculture, 2016

Based on Figure 1, it can be seen that Indonesia ranks fourth as the world coffee producing country in the period of 2011-2015. This illustrates that Indonesia's position as one of the coffee production centers in the world is a very good potential to be developed, thus in the future Indonesian coffee can continue to contribute to the world market. However, when viewed from the size of Indonesian coffee production to the world market, it is only ranked fourth after Brazil, Vietnam, and Colombia, therefore it is necessary to look at the comparative competitiveness between Indonesian and Vietnamese coffee. The aim of this study is to observe the competitiveness of Indonesian coffee compared to the competitiveness of Vietnamese coffee in the world market and how the performance of each coffee product owned by the two countries.

II. LITERATURE REVIEW

A country has competitiveness in producing an agricultural commodity because the said country has advantages in terms of availability of resources, production volume, productivity, quality, and efficiency in both production and marketing aspects. One of the objectives of competitiveness analysis is to find out the competitive and comparative advantages of a commodity on the international market. Knowing the competitiveness will be very useful for the formulation of policies and strategies to improve quality in order to increase the export of an agricultural commodity (Izzany 2015).

Previous research on competitiveness was conducted by Izzany (2015) showing the performance of Indonesian coffee exports to the ASEAN market fluctuated annually, both in the period before the implementation of the CEPT-AFTA and the period after the application of CEPT-AFTA. Then Muzendi (2014) conducted a study of market integration and the impact of non-tariff policies on export demand and competitiveness of Indonesian coffee on the international market which was analyzed using RCA showing that Indonesia had comparative advantage based on RCA and RSCA values, but still lower than Brazil, Colombia and Vietnam. Siahaan (2008) conducted a study on the Competitiveness Analysis of Indonesian Arabica Coffee Commodity in International Markets using RCA and its findings stated that Indonesia had a comparative advantage in Arabica coffee trade in the international market, but even so the comparative advantage of Indonesia was still low compared with the countries of Brazil, Colombia and Guatemala.

III. RESEARCH METHOD

The data used in this study was secondary data with time series from 2007-2017 collected from various sources such as UN Comtrade, Ministry of Agriculture, International Coffee Organization (ICO), Indonesia Coffee Exporters and Industries Association (AEKI), Central Statistics Agency (BPS), Ministry of Trade and results of studies from other literature. The data used was annual data and national aggregation for Indonesia, Brazil and the world. The types of coffee analyzed were: 1) HS code 090111 (coffee, not roasted, not decaffeinated), 2) HS code 090112 (coffee, not roasted, decaffeinated), 3) HS code 090121 (coffee, roasted, decaffeinated). Data analysis used in this study was quantitative descriptive analysis that refers to the competitiveness and performance analysis framework. The purpose of the analysis was to describe competitiveness systematically, factually and accurately. In addition, quantitative analysis in this study was also used to analyze the performance of Indonesian and Vietnamese coffees on world markets.

3.1 Revealed Comparative Advantage (RCA)

RCA is one of the analytical tools to measure a country's comparative advantage. The RCA method was first introduced by Balassa in 1965. The word Revealed in RCA means that a country's comparative advantage can be expressed from its trading pattern (exports). Mathematically, the RCA index can be formulated as follows:

$$RCA = \frac{\frac{X_{ij}}{\sum_j X_{ij}}}{\frac{\sum_i X_{ij}}{\sum_i \sum_j X_{ij}}}$$

Where :

X_{ij} = The value of country's coffee commodity exports j

$\sum_j X_{ij}$ = Total value of exports of all commodities from countries j

$\sum_i X_{ij}$ = Total value of world exports from coffee commodities

$\sum_i \sum_j X_{ij}$ = Total value of world exports of all commodities.

If the value of $RCA < 1$ or up to 0, then the competitiveness of the commodity is weak, conversely if the RCA value > 1 then competitiveness is relatively strong, where the higher the RCA the greater the level of competitiveness.

3.2 Export Product Dynamics (EPD)

In addition to RCA, in this study the analysis of Export Product Dynamics (EPD) is one indicator of competitiveness to show the performance of export of coffee products by measuring the market position of a country for certain market

purposes. The EPD method consists of a matrix that places the products analyzed into four categories (Table 1).

Table 1. Competitiveness Position Matrix with EPD Method

<i>Share of Country's Export in World Trade</i>	<i>Share of Product in Trade</i>	<i>Product in World</i>
<i>Rising (Dynamic)</i>	<i>Rising Star</i>	<i>Falling (Stagnant)</i>
<i>Falling (Non-Competitive)</i>	<i>Lost Opportunity</i>	<i>Retreat</i>

Source : Estherhuizen (2006)

To find out the competitiveness of a product as in Table 1 can be converted from the quadrant in Figure 2 where the competitiveness position will be in one of the quadrants. The position in the quadrant represents the strength of the business (X axis) and market attractiveness (Y axis) of a product. Mathematically, the business strength/market share (X axis) of a product is formulated as follows:

$$\frac{\sum_{t=1}^n \left(\frac{X_t}{W_t} \right) t \times 100\% - \sum_{t=1}^n \left(\frac{X_t}{W_t} \right) t - 1 \times 100\%}{T}$$

While the market attractiveness (Y axis) is mathematically formulated as follows:

$$\sum_{t=1}^n \left(\frac{X_t}{W_t} \right) t \times 100\% - \sum_{t=1}^n \left(\frac{X_t}{W_t} \right) t - 1 \times 100\%$$

Where:

Xi : Export value of Indonesian coffee products

Xt : Total value of Indonesia's exports

Wi : Export value of world coffee products

Wt : Total value of world exports

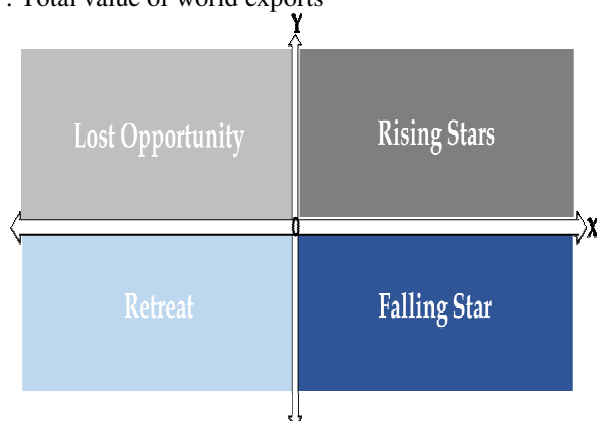


Figure 2. Position of product competitiveness with EPD method (Source: Estherhuizen, (2006))

IV. RESULT AND DISCUSSION

4.1 Analysis of Indonesian and Vietnamese Coffee Competitiveness in the World Market using RCA Method

The comparative advantage of Indonesian coffee exports with HS code 1) HS code 090111 (coffee, not roasted, not decaffeinated), 2) HS code 090112 (coffee, not roasted, decaffeinated), 3) HS code 090121 (coffee, roasted, decaffeinated) measured with revealed comparative advantage (RCA). The size of RCA is based on the concept of Ricardian comparative advantage (Moenius, 2006). RCA measures the export share of a country in the same industry group as other exporting countries, hence it is widely used to measure comparative advantage (Serin and Civan, 2008). In this analysis, the RCA value of Indonesian and Vietnamese coffee products is obtained in the world market. The higher the RCA value, means the country has a higher comparative advantage. Whereas if the RCA value is smaller than 1, then the country does not have a comparative advantage.

Indicators of trade in a country can be seen from the extent to which the country can export based on its comparative advantage. Meiri (2014) stated the same thing when analyzing the competitiveness of Indonesian coffee exports to the international market stating that Indonesian coffee has competitiveness.

Based on the analysis using RCA on coffee products with HS code 1) HS code 090111 (coffee, not roasted, not decaffeinated), 2) HS code 090112 (coffee, not roasted, decaffeinated), 3) HS code 090121 (coffee, roasted, decaffeinated) during the period of 2007-2017 showed that Indonesian coffee on the world market had a competitiveness of 26,31 lower than Vietnam's competitiveness of 32,54. Based on the RCA value, it shows that Vietnamese coffee is more competitive compared to Indonesian coffee in the world market for a period of 10 years, from 2007-2017, this result is similar to the study of Muzendi (2014) which states that Vietnamese coffee products are more competitive compared to Indonesian coffee. We can see the comparison of the average RCA value of the three Indonesian and Vietnamese coffee products in Figure 3.

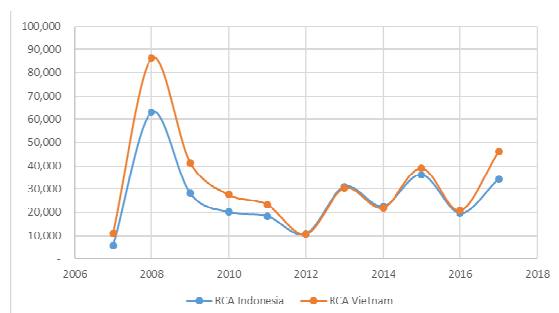


Figure 3 RCA value of Indonesian and Vietnamese coffee products

Figure 3 shows that in the period of 2007-2017 there were fluctuations in competitiveness of both Indonesian and Vietnamese coffees, it could be due to the number of Indonesian and Vietnamese coffee exports aimed at world markets also fluctuated.

Although it can be seen that there is inclination to the same trend, both Indonesian and Vietnamese coffees are experiencing fluctuations. These fluctuations can be caused by several factors both internal and external which was experienced by either Indonesia or Vietnam. Indonesian coffee, among others, is from the implementation of tariff and non-tariff policies in importing countries that Indonesia cannot yet fulfill, one of which is quality assurance that needs to be improved because Indonesian coffee is still classified as often of low quality because most Indonesian coffee comes from smallholder plantations and there is a practice of the green harvesting system as well as there are still many coffee that have not been certified, another problem is the discovery of more than 65 percent of Indonesia's coffee exports is Grade IV and above and classified as low quality coffee which is subject to export restrictions (Ibnu, 2017). The low quality of Indonesian coffee production is mainly due to inadequate plantations management, harvesting and post-harvest handling because almost all coffee is produced by smallholder plantations. In almost all coffee production centers, farmers harvest coffee fruit before the appropriate age of harvest (green harvesting) for various reasons such as insistence on living needs and prone to theft (Muzendi, 2014).

The conditions in Vietnam are not much different from the conditions in Indonesia, based on the research conducted by Nhien (2016) stating that most robusta land is old and needs to be rejuvenated to be replaced with arabica type coffee.

In addition, the coffee market still absorbs all coffee products and has not provided sufficient price incentives for high-quality coffee. A country can experience changes in

competitiveness because it is influenced by price and non-price factors (Fleming & Tsiang, 1956). In terms of handling so that farmers do not conduct green harvesting, the role of the government is required as had been stated by Ndayitwayeko WM (2014), Nhien (2016) that the government needs to provide good cultivation training for farmers and utilize technology that can increase the quality of coffee that will improve competitiveness of Indonesian coffee.

The method that can be carried out to avoid export fluctuations is through improving the quality of exported coffee beans such as avoiding harvests with green harvesting systems and improving quality through the application of certification to Indonesian coffee products, in addition revitalization of plantations in Indonesia needs to be done by the government. Revitalization of these plantations can be done by accelerating the expansion of planting areas and rejuvenation of plants so that they can increase the productivity, production and export of Indonesian coffee (Meiri, 2013). The same opinion was also stated by Alejandra (2012) who conducted research in Vietnamese coffee. The role of the Vietnamese government is expected to be able to increase competitiveness by trying to improve sustainability, and be able to supply the product according to market needs and demands.

Ismail (2017) states that Indonesian exports of coffee have competitiveness in only a few coffees, such as robusta Aceh coffee which is widely exported to international markets. In this certain coffee product Indonesia has higher competitiveness than Vietnam and especially in 2010-2015 Indonesia's coffee competitiveness was higher than Vietnam because of the high world demand for certain coffee products from Indonesia.

This illustrates that Vietnamese coffee has strong competitiveness as research conducted by Anneke (2014) states that Indonesia and Vietnam are world coffee exporters. Vietnam and Indonesia coffee commodities have strong competitiveness, thus they still have the potential to contribute to becoming the world's coffee supplier.

4.2 Export Product Dynamics (EPD) Analysis of Indonesian and Vietnamese Coffee on the World Market

In addition to RCA, in this study the analysis of Export Product Dynamics (EPD) is one indicator of competitiveness to show the performance of export of coffee products by measuring the market position of a country for certain market purposes. This method can measure the dynamics of a product on the market. The EPD method consists of a matrix that places the products analyzed into four categories (Figure 4).

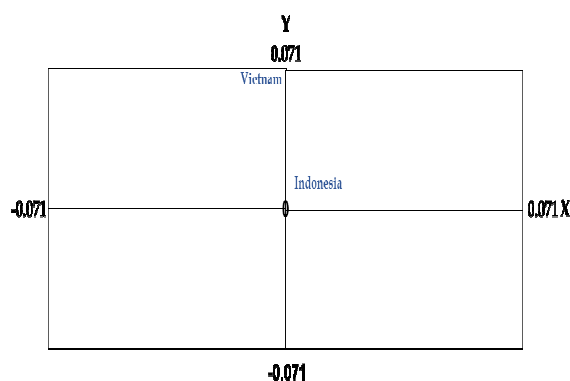


Figure 4. EPD matrix of Indonesian and Vietnamese coffees

EPD Matrix of Indonesian and Vietnamese Coffee Exports shows that the three products have high competitiveness and positive trade dynamics. During the period of 1987–2017 Indonesian coffee products were in demand in the world market, as indicated by the position of competitiveness of Indonesian coffee products on the world market in a rising star position which meant that Indonesian coffee products were very well received and growth rapidly in the world market, Vietnam's coffee competitiveness is in the position of Lost Opportunity which means that in the past 10 years there has been a loss of the Vietnamese coffee market in the world.

The competitiveness of Indonesian and Vietnamese coffee exports shows that Indonesian coffee products have a fairly good market growth with an increasing number of markets while Vietnam's coffee products experience a decline in the number of markets in the world. It needs to be maintained and improved, one of the efforts that can be taken by Indonesia to maintain and improve the competitiveness of Indonesian coffee products is through efforts to increase the quality (Astuti, 2015).

V. CONCLUSION

During the period of 1987–2017 Indonesian and Vietnamese coffees were equally competitive on the world market, based on the RCA analysis showed that the comparative competitiveness of Vietnamese coffee was 32,54 higher than the competitiveness of Indonesian coffee at 26,31 in the world market.

Indonesian coffee products are in demand in the world market, as indicated by the competitive position of Indonesian coffee products on the world market, while the competitiveness of Vietnamese coffee is in the position of Lost Opportunity.

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