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Export Competitiveness of Indonesia Canned Pineapple in European Union Market

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ABSTRACT
Canned pineapple is one of the main exported commodities for Indonesia processed agricultural products. Moreover, Indonesia is one of the leading exporters of canned pineapples alongside Thailand and the Philippines. The European Union (EU) is an important destination market for Indonesia where canned pineapple is favorable for imported agricultural goods. This research aims to analyse Indonesia canned pineapple export competitiveness and market position in the EU market based on time-series data from 2010 to 2019 as well as to determine the potential market. Revealed Symmetric Comparative Advantage (RSCA) and Export Product Dynamic (EPD) are methods used in this research. Based on RSCA results, it is shown that Indonesia has a comparative competitiveness in the EU markets for canned pineapples. However, Indonesia's competitiveness is below Thailand and equal to the Philippines. Indonesia canned pineapple showed higher comparative competitiveness in Finland and Netherlands markets compared to two other countries. In the EU and seven out of twelve importing countries, Indonesia canned pineapple export is in a falling star position. In the future, Sweden and Poland are the most ideal markets to export canned pineapples for Indonesia.

Keywords: *canned pineapple, export competitiveness, market position*

1. INTRODUCTION

Among tropical fruits cultivated in Indonesia, pineapple is one of the most cultivated fruits. Its production has been increasing each year from 2015-2019. As of 2019, Indonesia pineapple production reached more than two million tons [1]. Nevertheless, the pineapple consumption of Indonesians is still low as it is only 0.469 kg/capita/year in 2017 [2]. The gap between production and consumption of pineapple opens the opportunity for the export market. Other than being exported in raw, most of them are exported by Indonesia in canned form. In terms of canned pineapple, Indonesia is on the third rank leading exporters below Thailand and the Philippines. These three countries also aim for same market destination, such as European Union countries. Canned pineapple in EU countries is favorable goods in comparison with other canned fruits, in particular tropical fruits, and its demand tends to grow each year due to people's interests in consuming tropical food while searching for practicality and durability. Furthermore, it is predicted that EU demand for canned fruits and vegetables grows 1-2% each year which will be affecting demand for canned pineapple as well [3]. The market opportunity for canned pineapple offered by the EU leads to competition between exporters. With this in mind, Indonesia must be well-prepared by planning suitable marketing strategies in order to compete with other exporting countries in the EU market. The strategy must be planned according to information about Indonesia canned pineapple export competitiveness and market position in the EU market.

Previous research has been conducted to determine Indonesia canned pineapple export competitiveness in the world market and major importing countries. A study showed that Indonesia canned pineapple had high competitiveness in the international market. Nonetheless, its competitiveness was below Thailand and the Philippines but higher than Malaysia. According to the study, the market position for Indonesia canned pineapple in the world market was in a *rising star* position. This market position was also found in the USA, Spain, Italy, Canada, Denmark, Austria, and China. Thus, made those markets ideal for Indonesia's canned pineapple export. Indonesia canned pineapple in Japan, Australia, Finland, Sweden, and Belgium markets showed to be in a *falling star* position. Indonesia canned pineapple was unfavorable in France, Norway, and UK due to its position in *retreat* [4]. Another study revealed the competitiveness of Indonesia fresh and canned pineapple in seven main importers. The research unveiled that both kind of pineapples from Indonesia had higher competitiveness in the Netherlands, Germany, and Spain than the Philippines. Meanwhile, Indonesia pineapple competitiveness in Singapore and Argentina was higher as opposed to Thailand and the Philippines [5].

As stated before, EU countries are potential markets for Indonesia's canned pineapple. However, there is a lack of study about Indonesia export of canned pineapple and the EU market. In addition, determining potential markets for canned pineapples in EU is important as well to boost the export of Indonesia's canned pineapples in general by helping producers to focus in favourable markets. In light of that, this research will cover Indonesia canned pineapple export competitiveness and market position of Indonesia canned pineapple that aims to determine potential market in the EU.

2. METHODOLOGY

2.1. Data Collection

This research used secondary time-series data of canned pineapple export value from Indonesia, Thailand, the Philippines, and the world obtained from the United Nations International Trade Statistics Database (UN COMTRADE) based on Harmonized System (HS) code 200820 from 2010-2019. Other than that, the data also covers the total export value of Indonesia, Thailand, the Philippines and the world to importing countries. This research will study canned pineapple competitiveness in the EU market in general and countries that continuously import canned pineapple from Indonesia, Thailand, and the Philippines for the last ten years since not every EU countries import canned pineapples from those three countries. The EU market is referred to as the aggregate of all 27 EU countries that imported canned pineapple in that year.

2.2. Data Analysis

2.2.1. Export Competitiveness Analysis

Export competitiveness of a country's exported commodities is referred to as comparative competitiveness. Comparative competitiveness can be defined by using Revealed Comparative Advantage (RCA) [6]. A country is defined as specialised in certain exported goods and has competitiveness if the RCA value is higher or equal to unity [7].

$$RCA = \frac{Xij/Xtj}{Wij/Wtj} \tag{1}$$

X denotes export from Indonesia, Thailand, and the Philippines, while W represents world's export. Subscript i, t, and j indicate canned pineapple export, total export, and destination markets respectively.

However, RCA cannot classify competitiveness symmetrically as the range of its value is infinite. In addition, the unity value of RCA cannot be compared to either being competitive or not [8]. Thus, this research used Revealed Symmetric Comparative Advantage (RSCA) to determine canned pineapple competitiveness in EU markets. RSCA value ranges from -1 to 1, in which a country has comparative competitiveness for its commodities if the RSCA value is equal or greater than zero. In contrast, it has no comparative competitiveness if RSCA value is below zero [9].

$$RSCA = (RCA-1)/(RCA+1) \tag{2}$$

2.2.2. Market Position Analysis

Market position explains the relationship between the market share of a commodity and its dynamic in importing countries [10]. Export Product Dynamic (EPD) used to determine the dynamic of market position of Indonesia canned pineapple. Based on this method, there are four market positions which are *rising star, falling star, lost opportunity,* and *retreat*. In the calculation of EPD, there are x-axis which represents the growth of Indonesia total export market share and y-axis that represents canned pineapple market share [11].

$$x-axis = \frac{\sum_{t=1}^{t}\left(\left(\frac{Xij}{Wij}\right)_t \times 100\% - \left(\frac{Xij}{Wij}\right)_{t-1} \times 100\%\right)}{T} \tag{3}$$

$$y-axis = \frac{\sum_{t=1}^{t}\left(\left(\frac{Xtj}{Wtj}\right)_t \times 100\% - \left(\frac{Xtj}{Wtj}\right)_{t-1} \times 100\%\right)}{T} \tag{4}$$

X_{ij} denotes export of canned pineapples from Indonesia, whilst X_{tj} represents total export of Indonesia to destination markets. W_{ij} and W_{tj} indicate world export of canned pineapples and its total export to destination markets. Meanwhile, T signifies the number of years calculated, while t indicates the year that the market position is estimated. The results from the calculation then classified using EPD Matrix.

Table 1. Matrix of Export Product Dynamic

Growth of Total Export Market Share (x-axis)	Growth of Commodity Market Share (y-axis)	
	Dynamic (+)	Stagnant (-)
Competitive (+)	"*Rising star*"	"*Falling star*"
Not competitive (-)	"*Lost opportunity*"	"*Retreat*"

Source: Yulhar & Darwanto (2019) [12]

3. RESULT

3.1. Canned Pineapples Export Competitiveness

Table 2. Average RSCA Values of Canned Pineapples from Indonesia, Thailand, and the Philippines in Nine Destination Markets in 2010-2019

Destination Market	RSCA Value		
	Indonesia	Thailand	Philippines
Belgium	0.94	0.98	0.99
Finland	0.99	0.98	0.96
France	0.93	0.98	0.89
Germany	0.96	0.98	0.83
Italy	0.95	0.97	0.97
Netherlands	0.96	0.95	0.93
Spain	0.96	0.97	0.99
Sweden	0.98	0.99	0.97
European Union (EU)	0.96	0.98	0.96

Source: UN Comtrade 2021, Processed.

Only eight out of twenty seven EU countries continuously imported canned pineapples from the three leading countries over ten years period between 2010 and 2019. Other EU markets either import from one or two of those countries only or from other exporting countries beside Indonesia, Thailand, and the Philippines.

Indonesia was in second position in terms of export volume of canned pineapples in comparison with Thailand and the Philippines (**Figure 1**). During the periods between 2010 and 2019, Indonesia total export for canned pineapples each year was just around 50,000 tons. The export volume tended to remain stable throughout the years. Indonesia surpassed Thailand export volume in 2019, after Thailand plummeted since 2018. As for the Philippines, it showed significant rise annually. However, the export volume of Philippines had not exceed Indonesia and Thailand yet.

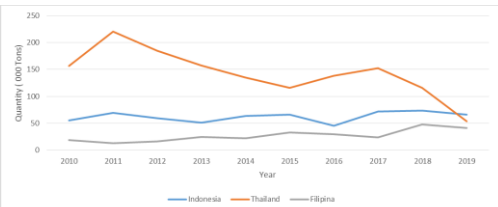

Figure 1. Export Volume of Indonesia, Thailand, and the Philippines in the EU in 2010-2019.

In general, canned pineapples from Indonesia, Thailand, and the Philippines in eight EU countries have RSCA values more than zero. In other words, canned pineapples from the three countries have comparative competitiveness in Belgium, Finland, France, Germany, Italy, the Netherlands, Spain, and Sweden. This result applies to the EU market as well where RSCA values of canned pineapples from Indonesia, Thailand, and the Philippines show to be greater than zero. To that end, the three countries have comparative competitiveness in the EU market in general. Nevertheless, Indonesia comparative competitiveness is lower than Thailand and equivalent to the Philippines.

Thailand leads the market by having higher comparative competitiveness in France, Germany, Spain, and the EU market in general. Meanwhile, the Philippines is in the forefront in Belgium and Spain. Only in Finland and the Netherlands, Indonesia is comparatively more competitive than Thailand and the Philippines.

Table 3. EPD Estimation Result of Indonesia Canned Pineapples in the EU Destination Countries in 2010-2019

Destination Markets	Growth of Export Market Share	Growth of Commodity Market Share	Market Position
Austria	-0.482	-0.001	*Retreat*
Belgium	1.054	-0.028	*Falling Star*
Denmark	1.312	-0.002	*Falling Star*
Finland	1.577	-0.007	*Falling Star*
France	-0.102	-0.003	*Retreat*
Germany	0.133	-0.011	*Falling Star*
Greece	-0.666	0.010	*Lost Opportunity*
Italy	1.171	-0.014	*Falling Star*
Netherlands	2.139	-0.018	*Falling Star*
Poland	0.045	0.001	*Rising Star*
Spain	0.503	-0.033	*Falling Star*
Sweden	4.055	0.001	*Rising Star*
European Union (EU)	0.651	-0.014	*Falling Star*

Source: UN Comtrade 2021, Processed.

In terms of pineapple production, Thailand has higher production than Indonesia. It is also supported by capital, innovation of technology, government incentives, and lower labour wage which Indonesia lacks [13]. Thus, making Thailand's comparative competitiveness higher than Indonesia and the Philippines. On the other hand, the Philippines comparative competitiveness in the EU markets is supported by the preferential tariff it received through *EU Generalized System of Preference Plus* (GSP+) that allows canned pineapples from the Philippines to enter the EU with zero tariff [14]. However, although Indonesia receives preferential tariffs from the EU as well, canned pineapple from Indonesia is still subjected to 15.70% tariff [15]. Although Indonesia has more advanced technology for processing canned pineapples, the higher tariff negatively affect its competitiveness in the EU and prevent Indonesia to have higher competitiveness than the Philippines.

3.2. Market Position of Indonesia Canned Pineapples

There are twelve EU countries which continuously import canned pineapples from Indonesia over the last decade. Overall, Indonesia canned pineapples have various market positions across the EU. All four market positions have been detected in the destination countries.

Indonesia canned pineapples in Sweden and Poland markets revealed to be in *rising star* positions. To that end, both countries are ideal markets for Indonesia to export its canned pineapples. It shows increasing growth of export market share and commodity market share which means that Indonesia has both competitiveness and rapid growth of demand for canned pineapple in both countries per year. Rapid growth of export and demand confirm that Indonesia canned pineapples are preferred by Swedish and Polish consumers.

Meanwhile, the *falling star* position is discovered in most destination markets. There is growing export of canned pineapples to Belgium, Denmark, Finland, Germany, Italy, the Netherlands, and Spain shown by positive growth of the export market share. However, the demands from those countries are diminishing annually. Consequently, Indonesia canned pineapples in those countries are competitive and yet less dynamic. Since there are diminishing demands, those destination countries are disadvantageous for Indonesia canned pineapples.

Table 4. Market Priority for Indonesia Canned Pineapple in the EU

Rank	Destination Markets	RSCA Values	Market Position
1	Sweden	0.98	*Rising Star*
2	Poland	0.71	*Rising Star*
3	Finland	0.99	*Falling Star*
4	Germany	0.96	*Falling Star*
5	Netherlands	0.96	*Falling Star*
6	Spain	0.96	*Falling Star*
7	Italy	0.95	*Falling Star*
8	Belgium	0.94	*Falling Star*
9	Denmark	0.88	*Falling Star*
10	Greece	0.91	*Lost Opportunity*
11	Austria	1.00	*Retreat*
12	France	0.93	*Retreat*

Source: UN Comtrade 2021, Processed.

On the other hand, Indonesia canned pineapples in Greece seem to be not competitive but dynamic. There is small export market share due to diminishing import of canned pineapples, but the annual demand is rising. As a result of that, the imported canned pineapples from Indonesia cannot fulfill the demand. Thus, it averts Greece as a favorable market for Indonesia canned pineapples.

Indonesia should be cautious in terms of exporting canned pineapples to Austria and France as both countries unveil annual declining growth of export and commodity market shares. Decreasing growth of export and commodity market shares indicating that Indonesia canned pineapples are not competitive and dynamic. These conditions are disadvantageous for Indonesia because it can be seen that Indonesia canned pineapples are not preferred by Austrian and French.

Indonesia canned pineapples in the EU market show competitiveness and yet not dynamic. The reason is that it has growing export market share but declining commodity market share. Therefore, although there is increasing export of canned pineapples from Indonesia, the demand from the destination market is declining. Thus, Indonesia canned pineapples are not preferred by EU consumers in general. Moreover, consumer preference influences demand [16]. Additionally, preferences in packaging and taste are important factors that affect consumer decisions to purchase the products [17] [18]. In light of that, to boost demand for canned pineapples in the EU markets and to improve its market position, Indonesia should consider packaging and flavour diversifications to facilitate the preferences of EU consumers.

3.3. Market Priority for Indonesia Canned Pineapples

RSCA and EPD are utilized to determine which destination markets should be prioritized to export canned pineapples. The higher RSCA values in destination markets, the higher chance it will be ideal markets. Destination market is advantageous and prioritized for Indonesia canned pineapple export if its market position is in *rising star* position, while other positions are considered to be disadvantageous and not prioritized.

Indonesia export in canned pineapples must be focused on Sweden and Poland markets as Indonesia canned pineapples have surging demand and export. Canned pineapples in those markets are shown to have comparative competitiveness and increasing demand.

Although Poland has lower competitiveness in comparison with other countries, the market position in this country is better than other destination countries that have higher competitiveness. Therefore, both countries are ideal and potential to be destination markets at the moment and in the future.

Finland, Germany, Netherlands, Spain, Italy, Belgium, and Denmark are importing countries where Indonesia canned pineapples have comparative competitiveness but declining demand each year. In other words, those countries are ideal for current trade but unfavorable for upcoming exports. Moreover, Greece is also a disadvantageous market for Indonesia canned pineapples since Indonesia canned pineapples cannot sustain its market shares in the future as Indonesia is not able to export competitive products.

Austria and France markets show declining import and demand for Indonesia canned pineapples, whilst high comparative competitiveness is determined in both countries. That is to say, Indonesia is capable of exporting competitive canned pineapples, for instance, in terms of competitive price and quality, but it is speculated that there will be slow growth of demand and export later which is caused by low preference for the products from the Austrian and French consumers. That being said, both markets are not ideal for future export of canned pineapples.

4. CONCLUSION

To conclude, Indonesia canned pineapples have comparative competitiveness in the EU markets, but lower than Thailand and equivalent to the Philippines. Indonesia canned pineapples are comparatively more competitive than other two countries in Finland and the Netherlands markets. In addition, most of Indonesia's market positions in the EU markets are in falling star positions. The most ideal markets based on competitiveness and market position are Sweden and Poland. That being said. Indonesia should focus on those markets for upcoming export of canned pineapples.

AUTHORS' CONTRIBUTIONS

Annisa Wijarani Untoro conceived the presented idea, performed analytical methods, and wrote the manuscript. Lestari Rahayu Waluyati and Dwidjono Hadi Darwanto supervised the research and provided critical feedback for the research and manuscript.

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