

ANALYSIS OF COMPETITIVENESS AND DETERMINANT OF SEAWEED EXPORT VALUE (HS 121221) INDONESIA TO EXPORT DESTINATION IN THE PERIOD OF 2012-2018

ANALYSIS OF COMPETITIVENESS AND DETERMINANT OF SEAWEED EXPORT VALUE (HS 121221) INDONESIA TO EXPORT DESTINATION IN THE PERIOD OF 2012-2018

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Abstract

The study was examined of Indonesian export of seaweed commodity (HS 121221) in 13 main export destination country (China, Korea, Vietnam, Chilli, Hong Kong, France, Spain, the Philippines, Denmark, Japan, Malaysia, Tunisia, and the United States) by using method of RCA (Revealed Comparative Advantage) index and EPD (Export Product Dynamics) index, and factors affecting the export of Indonesian seaweed to the main export destinations for 2012-2018. The Panel data regression method with a fixed-effect model is used to analyze the export model from the demand and supply side. The results showed that within 7 years period (2012-2018), RCA (Revealed Comparative Advantage), trade openness, and GDP had a positive and significant effect while LCU (Local Currency Unit), Consumer Price Index (CPI), and seaweed prices international influence negatively and significantly.

Keywords: *seaweed, competitiveness, revealed comparative advantage, export product dynamics*

1. INTRODUCTION

International trade is one component of the driving economic growth to achieve national development goals in the country. Domestic offerings and demand from abroad are one of the main causes of export activities.

In the export activities of a commodity, Salvatore (1997) states that theoretically the volume of exports of a particular commodity from one country to another is the difference between domestic supply and domestic demand, referred to as excess supply.

Indonesia is one of the countries with the largest archipelago that has 17,499 islands with a total area of 7.81 million square kilometers where the area of Indonesia's water is greater than the land. It is one of the wealth of natural resources that has the potential. Where almost all coastal areas of Indonesia can be utilized for cultivation development.

Based on Table 1 shown percentage contribution per sectoral of Indonesian gross domestic product (GDP) in 2015-2019, it is seen that agriculture, forestry, and fisheries sectors have the second highest contribution to GDP after the processing industry sector. Although contributions tend to be slightly decreased from 2015 to 2019, contribution of agriculture, forestry, and fisheries sectors reached an average of 13.13% per year. Therefore, the agriculture sector needs to be encouraged and managed well in order to improve Indonesia's economy. The following Table is 1.1

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percent of contributions per sector of Indonesian gross domestic product (GDP) in 2015-2019.

Table 1. Indonesia's Sector Contribution to GDP Period of 2015-2019 (%)

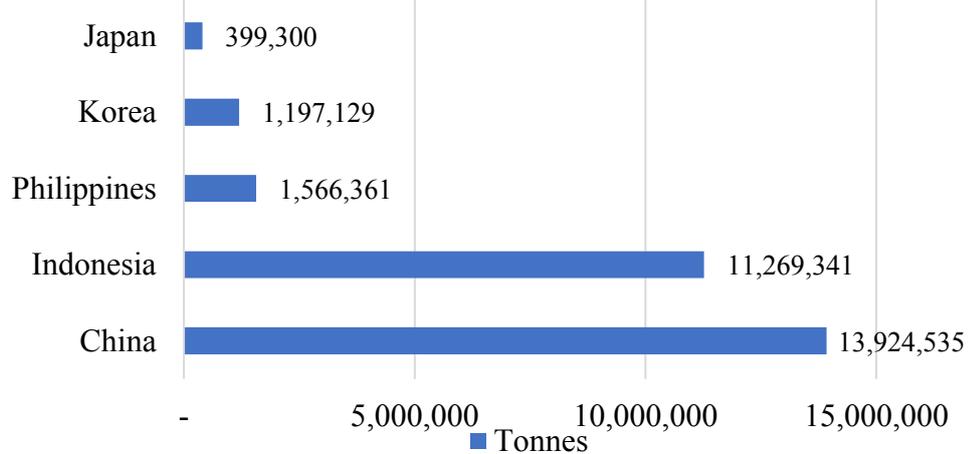
Sector	2015	2016	2017	2018	2019
1 Agriculture, forestry, and fisheries	13.49	13.48	13.16	12.81	12.72
2 Mining and excavation	7.65	7.18	7.58	8.08	7.26
3 Industrial processing	20.99	20.52	20.16	19.86	19.7
4 Procurement of electricity and Gas	1.13	1.15	1.19	1.19	1.17
5 Water procurement, waste management, waste and recycling	0.07	0.07	0.07	0.07	0.07
6 Construction	10.21	10.38	10.38	10.53	10.75
7 Large and retail trade; Car Repair and motorcycles	13.3	13.19	13.02	13.02	13.01
8 Transportation and Warehousing	5.02	5.2	5.41	5.38	5.57
9 Accommodation & Food Preparation	2.96	2.93	2.85	2.78	2.78
10 Information and communication	3.52	3.62	3.78	3.77	3.96
11 Financial services and Insurance	4.03	4.19	4.2	4.15	4.24
12 Real Estate	2.84	2.83	2.81	2.74	2.77
13 Company Services	1.65	1.71	1.75	1.8	1.92
14 Government administration, Defence and social Security mandatory	3.9	3.84	3.67	3.65	3.62
15 Education services	3.36	3.37	3.29	3.25	3.3
16 Health services and social activities	1.07	1.07	1.07	1.07	1.1
17 Other services	1.65	1.7	1.76	1.81	1.95

Source: BPS (2017), processed.

According to the Ministry of Maritime and Fisheries or KKP (2013), seaweed or algae has been a long time to be a product that consumed by the people of the world. In Indonesia, seaweed consumed by the community, especially in coastal areas. However, at that time, the use of seaweed was generally only to be eaten or consumed directly. Here Figure 1.1 showing the position of Indonesia as a producer of seaweed commodity in the 2015.

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Figure 1. The World's Seaweed Producing Country in 2015 (in tonnes)



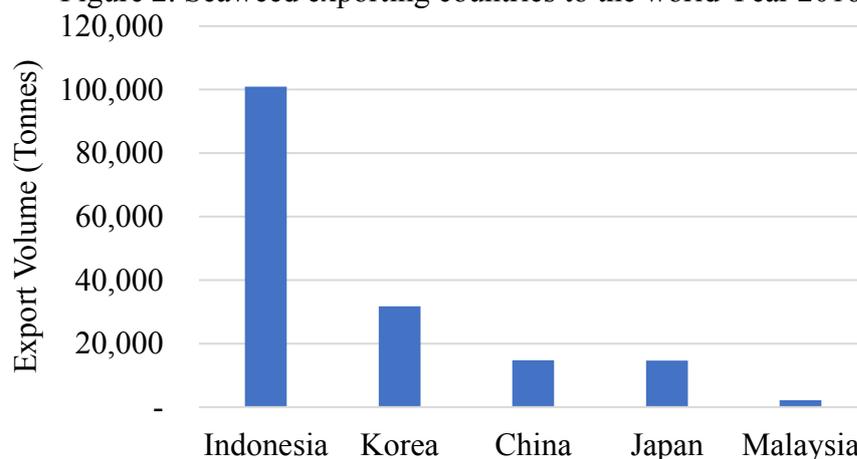
Source: UN Comtrade (2018), processed

Based on Figure 1., the world's leading producer of seaweed countries can be sorted by the total production as follows:

1. China produced 13,924,535 tonnes of seaweed in the year 2015 which placed it as the country producing the most seaweed,
2. Indonesia was in second order by producing seaweed for 11,269,341 tonnes in 2015,
3. Philippines produced 1,566,361 tonnes of seaweed in 2015,
4. Korea produced 1,197,129 tonnes of seaweed in 2015,
5. Japan produced 399,300 tonnes of seaweed in the year 2015.

With many sectors that require seaweed both from domestic and foreign, make the commodity of seaweed as one of the important commodities and have a high demand. According to the *Food and Agriculture Organization (2018)*, recorded more than 100 countries in the world to become a commodity importer of seaweed. Where the Indonesian state is also one of the seaweed importing countries. Here are pictures of 2 countries exporting seaweed to the world year 2016.

Figure 2. Seaweed exporting countries to the world Year 2016



Source: UN Comtrade (2018), processed

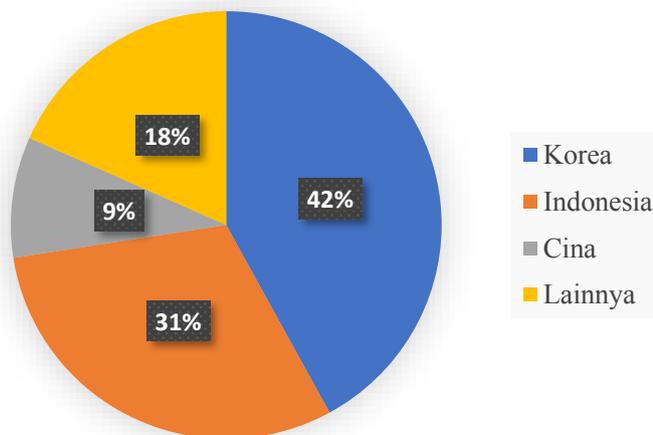
Based on Figure 2 the main exporting country order of seaweed (HS 121221) in the world in 2016 is as follows:

1. Indonesia is the country with the largest export amount of seaweed in the Dinia with an export volume of 100,972 tonnes,
2. Korea with the export volume of seaweed 31,719 tons,
3. China with the export volume of seaweed 14,721 tons,
4. Japan with a volume of exports of seaweed of 14,620 tons,
5. and Malaysia with the export volume of seaweed of 2,224 tons.

The development of globalization also affects the economic performance of a country either directly or indirectly. Globalization of Economics is a process of integrating the national economy into a global economic system. According to Todaro and Smith (2000), this international trade will affect the country's economic growth, as all countries compete in the international market. High competitiveness causes volume export demand to be increased.

Based on data from the *United Nation Commodity Trade Statistics Database*, the volume of Indonesian seaweed exports (HS 121221) in 2018 amounted to 176,481 tonnes in the first order and was followed by Korea, China and the Philippines. While the value of Indonesian seaweed exports in 2018 amounted to USD 190,671 or 31% of the total value of the world's seaweed reached USD 624,922 with the country's main export of seaweed exports including China, Korea, Vietnam, Chile, Hongkong, France, Spain, the Philippines, Denmark, Japan, Malaysia, Tunisia, and USA. World seaweed market share based on the value of seaweed exports shown in Figure 3, where Indonesia occupies second place after China.

Figure 4. World Seaweed Market Share in 2018



Source: UN Comtrade (2018), processed

Fluctuations in both the volume and export value of Indonesian seaweed are caused by many factors. Based on the fact that there is a need to do research to analyze how the competitiveness of Indonesian seaweed commodity in 13 main destinations export seaweed, in addition to the problems in the implementation of seaweed exports and the number of factors that influence the increase in export demand into something that needs to be analyzed in order to keep the commodity of seaweed to remain a mainstay of Indonesia in the next period.

2. LITERATURE REVIEW

International trade is a trade conducted by a resident of a country on the basis of mutual agreement. In his book, *the Wealth of Nations* (1776) Adam Smith stated

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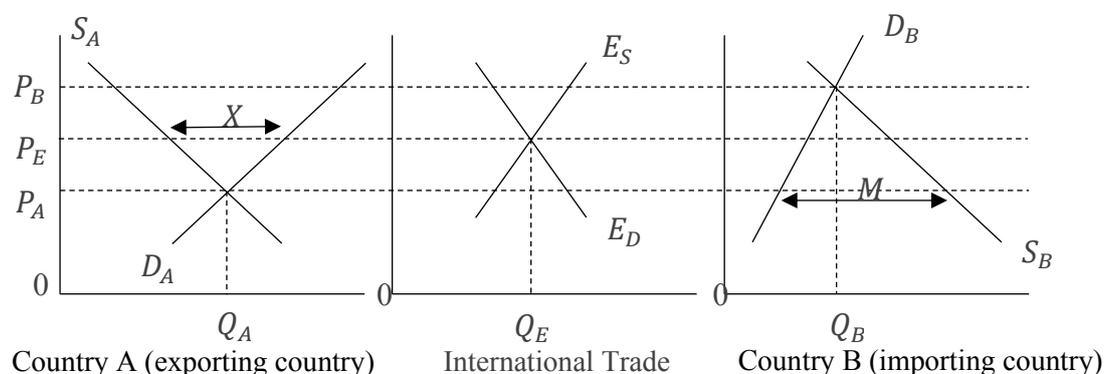
that a country would trade when the country had absolute advantage. If a country is more efficient than other countries in producing a commodity, but less efficient than other countries in producing other commodities, then the two countries benefit by the way each country specializes in producing commodities that have absolute advantage, and exchange it with other commodities that have absolute losses.

Meanwhile, David Ricardo In his book *Principles of Political Economy and Taxation* (1817) through his comparative theory of Excellence explains that a country will still be able to trade internationally and benefit from international trade even if the country has no commodity advantages. The comparative advantage is the ability of a country to produce goods with a smaller opportunity cost where the need to sacrifice a small amount of goods manufactured to produce other goods than other countries (Mankiw, 2012) or a country capable of producing goods in more quantities with a cheaper cost (more efficient) than other countries.

Heekscher and Ohlin stated that the commodity exported by a country is a commodity whose production absorbed many relatively abundant and inexpensive production factors in the country, and will import commodities requiring relatively scarce and costly resources in the Country (Salvatore, 1997). This theory states that every country will specialise in production as well as exporting commodities that absorb a lot of the production factors available in the country and import comiditi or goods that absorb a lot of the rare and expensive production factors in the country.

Based on Figure 4 shown that before the international trade process, the price of goods x in country A (exporting country) is P_A , while the price of goods x in country B (importing country) is P_B . Prior to the international trade process the total production of x goods in country A was $0 - Q_A$, while the total production of x goods in country B is $0 - Q_B$. If the price of goods x in country B is P_B Then this will cause an excess demand, whereas if the price of goods x in country A is P_A Then this will cause the condition of excess supply. The meeting between the conditions of excess supply and excess demand is what will eventually form the price in the international market as P_E That the two countries have agreed to. In this case A country will export the X goods to country B, whereas country B will import the X goods from country A. This is what caused the international trade process to be presented, and shown in Figure 4.

Figure 4. The process of international trade



Source: Salvatore (1997)

According to Lipsey (1995) Commodity export demand is influenced by several factors such as competitiveness and exchange rate. A commodity's competitiveness plays an important role in the export amount demand. Therefore, a country does export activities because it has a comparative advantage in producing a particular commodity, both in terms of resource abundance and efficient in the production process.

If the state's real exchange rate of importers against the United States dollar is appreciable, then the price of goods abroad will be relatively cheaper than the price of goods traded in the country. This causes the import price for the domestic population to be relatively cheaper, while for the exporters this will have an impact on the price increase of their product because it becomes relatively more expensive. Conversely, if the real exchange rate of state importers against the United States dollar is depreciation, then the price of goods abroad will be relatively more expensive and the price of goods traded in the country will be cheaper. As a result the country imports will decline and its exports will increase due to the many export demand.

Competitiveness is the ability of a manufacturer to produce a commodity with a low cost so that at prices that occur in the international market the production activities can be profitable. If the exporter country has high competitiveness capability in the importing country, then the demand for exports will increase

According to Mankiw (2012), the export of a country is influenced by several factors, such as consumer appetite for domestic production goods, prices of goods in the country and abroad, the exchange rate that determines the amount of local currency needed to buy foreign currency, consumer income in and outside the country, the cost of freight between countries, and government policy on international trade. Changes in the volume of exports to changes in the exchange rate, in this case Rill exchange rate is positive meaning real depreciation makes domestic products relatively cheaper so as to stimulate exports (Krugman, 2003).

One important factor that affects the demand for exporting a commodity is the price. The export price is a representation of the value paid by the other country for the purchase of a commodity or goods expressed in a specific unit of scale. On a simple economic concept, prices are always inversely proportional to demand. In the export price there are several combinations of prices of production factors used in the commodity production. The increase in the export price of a country will cause foreign consumers to reduce the number of requests to the goods, causing the volume of exports of a country to be decreased (Lipsey, 1997).

Inflation is a condition in which prices increase generally and sustainably (Pohan, 2008). The price increase of one or two goods alone cannot be called inflation unless the increase extends (or results in a price increase) on other goods. While the decline in the price level of goods and services is called deflation. The calculation of inflation is carried out through the consumer Price Index (CPI) approach used as an indicator in measuring the cost of the goods and services consumption market. the higher the rate the CPI will eat the faster the infect.

In the short term, inflation has a positive impact that results in the circulation and turnover of goods faster so that the production of goods increases, job opportunities increase because of additional investment that means opening the field to reduce unemployment problems. But in long term can give a bad impact. A high rate of inflation can lead to a hike in domestic prices so that, domestically priced prices

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will be more expensive than imported prices. In case of domestic inflation, it means that domestic products will be difficult to compete in the international market and imports of those countries will be higher in comparison with the export.

Gross Domestic Product can also be interpreted as income received by a country. GDP will be used in consumption and investment activities by Governments and private sectors such as exporters. Therefore, GDP is a factor that is also important in terms of export demand, if GDP increases then income is also increased, so that the consumption of a country is also increased.

Economic openness is a measure of policy to regulate the flow of goods and services and the flow of capital internationally, both in the form of limiting and loosening international relations between countries. In the economic openness there are two currents of international movement, the first of which is trade openness that regulates the movement of the flow of goods and services, and the second is financial openness (yanikkaya, 2003).

3. RESEARCH METHODS

The research Unit in this research is the commodity of seaweed based on standard Harmonized System (HS) with 6-digit HS code 1221221 (*seaweeds and other algae, fresh, chilled, frozen or dried, whether or not ground, fit for human consumption*).

Variable Research

In this study, the dependent variable used was the export volume of Indonesian seaweed in the main export destination country. The independent variables used are the RCA index (Revealed Comparative Advantage), consumer price index (CPI) importer country, trade openness, real local currency unit exchange rate (LCU) against USD, gross domestic product (GDP) relative to the country's export destination, and international seaweed prices. The object of this research is the country with the export purpose of seaweed Indonesia, namely China, South Korea, Vietnam, Chile, Hongkong, France, Spain, the Philippines, Denmark, Japan, Malaysia, Tunisia, and the United States.

Methods of analysis

The research uses two types of research: Descriptive research and associative research. Descriptive research is used to provide an overview and explanation of the competitiveness of Indonesian seaweed using the Revealed Comparative Advantage (RCA) and Export Product Dynamics (EPD) methods. Associative research is used to analyse the value of Indonesian seaweed export determinant.

Analysis Revealed Comparative Advantage

To measure the comparative advantage of the exported commodity will use the following formula:

$$RCA = \frac{X_{ij}/X_t}{W_j/W_t}$$

Where:

X_{ij} : The value of export of Indonesian seaweed commodity to the country's importer of seaweed Indonesia

Xt : Total value of Indonesia's exports to Indonesian seaweed importer

Wj : The value of exporting the world seaweed commodity to the country importers of seaweed Indonesia

Wt : Total world export value to Indonesian seaweed importer country

If the value of RCA is more than 1 then commodities have comparative advantages and conversely if RCA values less than 1 then commodities have comparative advantages (Granabetter, 2016).

Analysis of Export Product Dynamics

The Export Product Dynamics approach Model is used to identify competitive advantages and to determine the performance of a dynamic commodity. The EPD index measures the market position of a country's commodity. This indicator has the ability to compare the export performance of each country around the world.

The formula used in this EPD calculation, including:

The x-axis, which indicates business strength growth or is called the export market share I:

$$\frac{\sum_{t=1}^t [\frac{X_{ij}}{W_{ij}}]_t \times 100\% - \sum_{t=1}^t [\frac{X_{ij}}{W_{ij}}]_{t-1} \times 100\%}{T}$$

The y-axis, which shows the growth of attractiveness or called Commodity market share:

$$\frac{\sum_{t=1}^t [\frac{X_t}{W_t}]_t \times 100\% - \sum_{t=1}^t [\frac{X_t}{W_t}]_{t-1} \times 100\%}{T}$$

Where :

Xij : The value of export of Indonesian seaweed commodity to the country's importer of seaweed Indonesia

Xt : Total value of Indonesia's exports to Indonesian seaweed importer

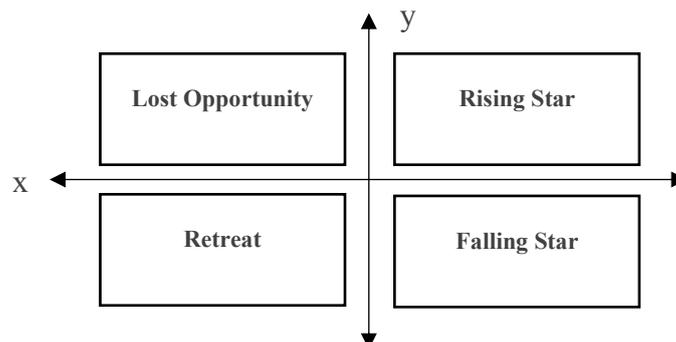
Wj : The value of exporting commodity of world seaweed importer of Indonesian seaweed

Wt : Total world export value to Indonesian seaweed importer country

T : Number of years analysis

The EPD matrix consists of market appeal and business strength information. The combination of market attractiveness and business strength produce the position character of the commodity that wants to be analyzed into four categories:

Figure 5. Market position Quadrant According to Product Dynamic Export (EPD)



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Source: Estherhuizen (2006)

Where:

X-axis: Increased share of product exports in a particular destination country

Y-axis: Increased market share of a product in world trade

Data regression analysis Panel

The method of estimation of data panels can be done with two different approaches: Fixed effect Model (FE) and Random effect model (RE). To determine the use of a good model between fixed effect (fem) and random effect (REM) models, it is necessary to do with Test Hausman. The Hausman test criteria are as follows:

- a. If the value of χ^2 (*Chi-square*) statistics on the Hausman test is significant, then the appropriate model to use is the fixed effect model
- b. If the value of χ^2 (*Chi-square*) statistics on the Hausman test is not significant, then the appropriate model to use is a random effect model.

The regression models used in this study are as follows:

$$LNEV_{it} = \alpha + \beta_1 LNRCA_{it} + \beta_2 LNL CUUSD_{it} + \beta_3 LNT O_{it} + \beta_4 LNCPI_{it} + \beta_5 LNP_{it} + \beta_6 LNGDP_{it} + \varepsilon_{it}$$

Where:

- α : Constanta (intercept) ;
- $\beta_1 - \beta_5$: Regression coefficients of any independent variable;
- LN : Natural logarithm;
- $LNEV_{it}$: The Export Volume of seaweed in t time for unit cross section i;
- $LNRCA_{it}$: Revealed Comparative Advantage (RCA) Indonesia in a destination country export in time t for unit cross section i
- $LNL CUUSD_{it}$: LCU exchange rate against USD at time t for unit cross section i;
- $LNT O_{it}$: Trade openness at t time for unit cross section i;
- $LNCPI_{it}$: Consumer Price index (CPI) for export destination country at t time for Unit cross section i;
- $LNGDP_{it}$: GDP relative in time t for unit cross section i;
- $LNH B_{it}$: International Seaweed prices at t time for unit cross section i;
- i : 1, 2, 3, ..., 13 (Cross-section of the country's export destination of seaweed Indonesia);
- t : 1, 2, 3, ..., 7 (time-series, year 2012-2018);
- ε : Error term.

The GDP Model of the country's export destination relative to the Indonesian GDP (Y *) is derived as follows:

$$Y/Y * = B (Y - Y *)$$

$$\text{Log } y/Y * = B (\text{log } Y - \text{Log } Y *)$$

Where:

- B : Parameters
- Y/Y * : GDP of the country's relative importers of GDP Indonesia
- Y : GDP of Importer
- Y * : GDP of Indonesia

4. RESULTS OF RESEARCH AND DISCUSSION

Analysis results Revealed Comparative Advantage and Export Product Dynamics

The Revealed Comparative Advantage (RCA) method is used to determine the comparative advantages of Indonesian seaweed commodity in the export destination country. If the value of RCA is greater than one, then the commodity analyzed has comparative advantages or strong competitiveness so that it can be maintained to keep exporting to the destination country and if the RCA value less than one indicates that the commodity analyzed does not have the comparative advantage or commodity is weak competitiveness so it should not be encouraged to export to the destination country.

While to know the competitive advantages of Indonesian seaweed commodity in the destination country, can use the Export Product Dynamic method by looking at the market position. The market position of Rising Star is the most ideal market position so that the country has potential and can be used as the purpose of exporting the Indonesian seaweed commodity. The market position of Lost Opportunity can also be used as the purpose of exporting the Indonesian seaweed commodity because in that position there is an increase in the demand for the export of seaweed commodities, but Indonesia does not provide the amount of exports in accordance with the increasing demand of the destination country While the market position of Falling Star and Retreat does not reflect the market potential as the export destination of Indonesian seaweed commodity, this is due to the decline of export demand from export destination country.

Table 2. RCA and EPD seaweed Indonesia in export destination country

Country	Rca		EPD		
	RCA value	Competitiveness	Export market share growth (%)	Product market share growth (%)	Market position
Chinese	59.65	Strong	0.44082	0.00228	Rising Star
Korean	25.13	Strong	1.28671	-0.0294	Falling Star
Vietnamese	23.77	Strong	-0.4156	-0.0007	Retreat
Chile	375.82	Strong	0.01757	-0.0003	Falling Star
Hongkong	80.76	Strong	-0.0609	-0.0003	Retreat
France	108.46	Strong	0.65344	-0.0003	Falling Star
Spanish	39.27	Strong	-0.0749	-0.0028	Retreat
Philippines	17.58	Strong	-0.4258	0.02907	Lost Opportunity
Danish	205.4	Strong	-0.3353	-0.0012	Retreat

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Country	Rca		EPD		
	RCA value	Competitiveness	Export market share growth (%)	Product market share growth (%)	Market position
Japanese	0.14	Weak	0.00736	-0.0246	Falling Star
Malaysia	1.6	Strong	-0.3207	-0.019	Retreat
Tunisia	277.28	Strong	-0.4746	-0.0035	Retreat
USA	2.21	Strong	-0.0013	0.00151	Lost Opportunity

Based on the results Revealed Comparative Advantage of table 2 was found calculation of the competitiveness of Indonesian seaweed in China, Korea, Vietnam Chile, Hongkong, France, Spain, Philippines, Denmark, Malaysia, Tunisia and USA strong competitiveness demonstrated by the value of Revealed Comparative seaweed of seaweed in each country the export destination more than one. While the competitiveness of Indonesian seaweed in Japan country has a low competitiveness with RCA value of 0.14 or less than one.

Based on the estimation of Export Product Dynamics, Indonesia's seaweed commodity exports in China besides having a strong competitiveness, its market position also occupies the Rising Star position, so that marketing can continue to be maintained. Indonesian seaweed commodity in Korea, Chile, France occupies the position of Falling Star which causes no export potential, while Japan besides occupying the Falling Star position, competitiveness in the country is also weak. Likewise in Vietnam, Hong Kong, Spain, Denmark and Tunisia seaweed commodity has strong competitiveness, but because seaweed commodity in this country occupies a Retreat position then this export potential is not due to Indonesia's export share in the country and Indonesia's export share in the world experiences decrease. While in the Philippines and the United States, despite their strong competitiveness, they occupy the position of Lost Opportunity, thereby losing the opportunity to gain market share in dynamic products, this is due to a decline in Indonesia's export share in the country.

Panel Data Regression Analysis Results

Based on the Hausman test results, the regression model used is the Fixed Effect (FEM) model. The equation used is multiple linear equations, where the independent variables namely RCA, consumer price index (CPI), trade openness, local currency unit (LCU), GDP per capita, and international seaweed prices, while the dependent variable is export volume. The regression results for this equation can be seen in Table 3.

Table 3. Summary of Regression Estimation Results
(Dependent Variable: Export Volume)

Variable	Coefficient	t-statistic	Explanation
C	21,570	3,5323	Sign at $\alpha=5\%$
LN_RCA	0,8869	14,6761	Sign at $\alpha=5\%$
LN_LCU	-0,2045	-2,2263	Sign at $\alpha=5\%$
LN_TO	0,4018	0,5036	Sign at $\alpha=5\%$
LN_CPI	-1,980	-1,5170	Sign at $\alpha=5\%$
LN_P	-0,8449	-7,6596	Sign at $\alpha=5\%$
LN_GDP	0,8298	0,6659	Sign at $\alpha=5\%$
R ²	0,9473		
F-statistik	71,865	Sign at $\alpha=5\%$	
Durbin-Watson stat	1,7507		

Source: Processed Data Output with Eviews 10.

The coefficient of determination R^2 is 0.9473 which means that 94.73 percent of the variation in the dependent variable EV (Export Volume) as a proxy of Indonesian seaweed exports is quite capable of being explained by the independent variables in the model. Meanwhile the rest, which is 5.27 percent, is explained by other variables not included in the research model.

The estimated results of the influence of RCA, LCU, trade openness, CPI, international prices and GDP on the volume of Indonesian seaweed exports using a level of confidence of 95 percent ($\alpha = 5$ percent), degree of freedom for numerator (dfn) = 6 ($k-1 = 7-1$) and degree of freedom for denominator (dfd) = 84 ($nk = 91-7$), obtained F-table of 2.21 Based on the regression results obtained F-statistics of 71.8653, it can be said that the independent variables together all affect the dependent variable (F-statistics > F-tables).

Effect of Revealed Comparative Advantage (RCA) on the Export Volume of Indonesian Seaweed

The estimation results show that the influence of Indonesia's Revealed Comparative Advantage (RCA) in export destination countries on the export volume of Indonesian seaweed is positive and significant with a coefficient of 0.887, which means that an increase in Revealed Comparative Advantage (RCA) of 1 percent can increase the volume of export of grass Indonesia's sea by 0.887 percent.

This research is in accordance with Ragimun (2012) and Krisna (2013) which examines the competitiveness assessed using the RCA index shows that the higher the RCA, the value of exports also increases. Exporting countries that have high competitiveness in their export destination countries will increase the country's export volume.

Effect of Local Currency Unit (LCU) on the Export Volume of Indonesian Seaweed

Estimation results show that the influence of the Local Currency Unit (LCU) of export destination countries on the export volume of Indonesian seaweed is negative and significant with a coefficient value of 0.204, which means that an increase in the Local Currency Unit (LCU) of export destination countries by 1 percent can reduce

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export volume Indonesian seaweed by 0.204 percent. This result is in line with previous research conducted by Kadir Karagoz (2015) related to factors affecting export performance, where on the demand side there is a negative relationship between the country's exchange rate and export volume.

Effect of Trade Openness on the Export Volume of Indonesian Seaweed

The estimation results show that the effect of trade openness of export destination countries on the export volume of Indonesian seaweed is positive and insignificant with a coefficient value of 0.402, which means that an increase in trade openness by 1 percent can increase export volume by 0.402 percent. The greater trade openness of export destination countries shows that the process of international trade such as exports and imports is easier to do.

Effect of Consumer Price Index (CPI) on the Export Volume of Indonesian Seaweed

Estimation results show that the influence of the Consumer Price Index (CPI) of export destination countries on Indonesia's seaweed export volume is negative and insignificant with a coefficient of 1.980, which means that an increase in Consumer Price Index (CPI) of export destination countries by 1 percent can reduce volume Indonesia's seaweed exports amounted to 1.980 percent..

An increase in inflation causes an increase in money supply. But in this case, when money supply increases and inflation occurs, it will cause weakening purchasing power of imported products, which is caused by a depreciating domestic currency, so the price of imported products becomes expensive. This result is in line with previous research conducted by Amir Machmud (2016), related to the impact of depreciation on import development.

Effect of International Seaweed Prices on the Export Volume of Indonesian Seaweed

Estimation results show that the effect of international seaweed prices on the export volume of Indonesian seaweed is negative and significant with a coefficient value of 0.845, which means that an increase in international seaweed prices by 1 percent can reduce the volume of Indonesian seaweed exports by 0.845 percent. This is consistent with the hypothesis that international seaweed prices negatively affect export volumes. These results are in line with previous research conducted by Puspi Eko Wiranthi and Faizul Mubarak (2017), related to factors that affect exports.

The Effect of Relative Gross Domestic Product (GDP) on the Export Volume of Indonesian Seaweed

Estimation results show that the relative influence of Gross Domestic Product (GDP) of export destination countries on the export volume of Indonesian seaweed is positive and insignificant with a coefficient of 0.830, which means that an increase in the relative Gross Domestic Product (GDP) of export destination countries by 1 percent can increase the volume of Indonesian seaweed exports by 0.830 percent. GDP is the aggregate income of a country that can be used in consumption and investment activities by the government and the private sector such as exporters. So the GDP of export destination countries has an important role in export demand in Indonesia.

These results are in line with previous research conducted by Puspi Eko Wiranthi and Faizul Mubarak (2017), related to factors that affect exports.

5. CONCLUSION

Based on the results of the analysis that has been done, the following research conclusions are obtained: Revealed Comparative Advantage (RCA) competitiveness analysis shows that Indonesian seaweed in the main export destination countries has a comparative advantage or strong competitiveness, except in Japan. While through the analysis of Export Product Dynamics (EPD), the results show that the position of competitiveness of Indonesian seaweed commodities in China is in the Rising Star position. The position of competitiveness in Korea, Chile, France occupies the position of Falling Star. Vietnam, Hong Kong, Spain, Denmark and Tunisia are in the position of Retreat. While in the Philippines and the United States occupies the position of Lost Opportunity. The second analysis of competitiveness shows that Indonesia's seaweed commodity has a strong competitiveness and yet has only increased export demand to China.

The estimation results show that the RCA variable has a positive and significant effect on the export volume of Indonesian seaweed, the TO and GDP variable has a positive and not significant effect on the export volume of Indonesian seaweed, the LCUUSD and P variables have a negative and significant effect on the seaweed export volume Indonesia. While the CPI variable has a negative and not significant effect on the export volume of Indonesian seaweed.

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