

# Crude Palm Oil a Competitive Advantage Facing European Union Ban

Jean Richard Jokhu<sup>a\*</sup>, Filda Rahmiati<sup>a</sup>, Maria Jacinta Arquisola<sup>a</sup>,  
Mohammed Hariri Bakri<sup>b</sup> Aziza Rahmaniar Salam<sup>c</sup>

<sup>a</sup>President University, Cikarang, Indonesia

<sup>b</sup>Universiti Teknikal Malaysia, Melaka, Malaysia

<sup>c</sup>Pusat Kebijakan Perdagangan Luar Negeri Kementerian Perdagangan, Jakarta, Indonesia

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## Abstract

Palm oil or green gold is an answer for next decade energy and human problem. This industry can increase the economic growth of a country due to increasing of demand for palm oil around the world. However, in the last decade this industry are facing the new rules of sustainability palm oil plantation. This policy has catastrophically push down Southeast Asia region export as the biggest palm oil producers. An important policy has to make in order to survive this new policy. The study tries to bring the focal point on how big the impact of the new policy towards two biggest palm oil country in the world, Indonesia and Malaysia. This research identified impact and researched a way for the palm oil countries to better cope with the sustainable policy from European union. The macroeconomic factor will be used as a determinant measured by crude palm oil (CPO) price, export volume and production, Palm oil production in both country. And the economic growth will be measured using GDP. For analysis, this study will be using e views for regression tools.

Keyword: Palm oil, Sustainability policy, Economic growth

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## 1. Introduction

Palm oil is the new goldmine for renewable energy. Oil palm is the most crucial plant that support humankind for food security (Khatun et al. 2017). In 2017, total production for oil palm has reach 72 million tons, 37,8 (52%) million from Indonesia and 20,5 (28%) million from Malaysia (USDA 2018). The United States Department of Agricultural (USDA) state oil palm production is the biggest oil seeds production compare to

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\* Corresponding author. Tel.: +62-8111-908010; fax: +62-21-89109763.

E-mail address: Jean.Richard@president.ac.id.

other seeds such as sunflower seeds, soybean and rapeseed in the last decade. The increased of population and renewable energy have increase the demand for oil palm production. By 2020, Indonesia and Malaysia oil production should reach 70 million tons to keep up with the increased of global demands.

Palm oil has significantly contribute to the economies of Indonesia and Malaysia (Purnomo et al. 2020). In Indonesia's non-oil and gas exports, based on data for 2017 - 2020 the contribution of this sector is more than 10% of the country's foreign exchange earnings. During the Covid19 pandemic the palm oil sector and its derivative products were still the backbone for Indonesia's non-oil and gas exports, according to 2020 data, palm oil exports grew 13.6% from 2019 (Timorria 2019; Yustinus 2021). This sector is the sector most responsible for increasing Indonesia's foreign exchange. When compared to other palm oil exporting countries, Indonesia is a major player in palm oil production. During 2018, Indonesia was able to produce 42.8 million tons while Malaysia as the number two palm oil producer in the world was only able to produce 28 million tons per year. This proves that both countries are the major player in the oil palm trade.

From market conditions, demand for palm oil in its derivative products continues to increase, namely for food, non-food and energy ingredients (Khatiwada, Palmén, and Silveira 2021; Khatun et al. 2017). The wide range of derivative products from palm oil ranging from cooking oil to biodiesel fuel as well as the growing demand from the world's population explosion makes palm oil the most profitable oilseeds in the future.

On the other hand, European countries have begun to limit themselves in importing palm oil from Indonesia and Malaysia because of the issue of deforestation, forest burning, and the slaughter of wildlife in the area of oil palm plantations (Khatiwada, Palmén, and Silveira 2021; Khatun et al. 2017; Oosterveer 2020; Purnomo et al. 2020). This European pressure forces the supply chain for palm oil derivative products to be limited to domestic consumption. As a result, the world population growth and increase in demand for palm oil products cannot be used by oil palm nations.

This condition is a problem for the Indonesian economy which still depends on the agrarian sector to increase foreign exchange earnings. Palm oil has a major impact on the economy as the main sector of non-oil and gas exports, especially the economic regions. In addition, this prohibition also affects the economy of oil palm plantations so that it can increase the poverty rate in both country (Afriyanti, Kroeze, and Saad 2016; Kushairi et al. 2018; Tampubolon and Pasaribu 2017).

Research on the impact of palm oil production on the Indonesian economies growth is still limited. Existing research is the impact of palm oil derivative products on Indonesian export policies and the trade war in oil palm (Alam, Choy Er, and Begum 2005; Purba et al. 2018), another research focused on palm oil export towards indonesia competitiveness (Oosterveer 2020; Yanita, Napitupulu, and Rahmah 2020). The research gap used in this study is to use data panel analysis to explain the impact of the new policy towards palm oil producing countries in Malaysia and Indonesia.

Based on the above arguments, it is deemed necessary to conduct an analysis of the effect of oil palm production on the palm oil producing countries, especially export performance and palm oil production. Thus, the aim of this study is to determine how strong the influence of the new European regulation on countries economic growth. Through this research, it is hoped that it will encourage the government to pay more attention to palm oil as the most profitable plantation sector and the government can make policies that profitable for countries economic growth.

## **2. Theoretical Background**

### *2.1. Palm oil Production*

Oil palm in Indonesia has grown very rapidly in the last decade (Oosterveer 2020; Rahayu and Sugianto 2020). The government determined in 2021, Indonesia will be able to produce 49 million tons of palm oil per

year. However, this result is still lower than the 2019 production of 51 million tons. Indonesia and Malaysia oil palm capability is inseparable from government policies that encourage regional economic improvement through agriculture. Oil palm plantations have become the government's answer in eradicating poverty from remote areas in both countries by converting remote land to oil palm plantations. In terms of productivity, palm oil is capable of producing 3 tonnes / ha while other oilseeds only record 0.4-0.6 tonnes / ha, so it can be concluded that palm oil is one of competitiveness in international trade for producing countries.

Recent research shows oil palm can be the answer to global needs (Khatun et al. 2017; Rosyadi, Darwanto, and Mulyo 2020). In terms of demand for palm oil derivative products, there are many opportunities in the global market. Starting from food, non-food to energy can be produced with oil palm. In terms of energy, palm oil is used as a substitute fuel for diesel or biodiesel. The use of palm oil as a renewable energy is the answer to the world's climate problems. Thus, the ability to produce palm oil should be countries leading competitiveness. From the perspective of the palm oil industry, this study uses the theory of export, investment, and economic growth as a determinant to answer how big the role of oil palm is for economic growth.

#### Export performance

One of the indicators in countries economic growth is the strategic issue in international trade. According to Temiz Dinç and Gökmen (2019) the export performance are highly depends on the regional and world trade agreement. The openness policy of the region will lead the improvement of developing country economic growth (source). However in oil palm industry the export activity are highly affected by the sustainable policy imposed by the European (Khatun et al. 2017; Rahayu and Sugianto 2020). The application of the policy create reduction in terms of economic growth for producing countries (Afriyanti, Kroeze, and Saad 2016; Purba et al. 2018).

## 2.2. Economic growth

Economic growth can be defined as the indicator of countries performance (Kartikasari 2017). According to Carrasco and Tovar-García (2020) there is a significant relationship between export activities and economic growth. There is a strong relationship between export and economic growth in countries economy, Economic development could be increased with export activities. Export-led economic growth is a determinant for production and creation of employment opportunities in developing countries.

## 3. Methods

For analysis this research used secondary data that we gathered from collective information national and international institution publications. The secondary data used in this study is panel data which can provide us with multiple observation on each factor in the sample. Panel data can help to reducing collinearity among explanatory variables and improving efficiency in econometrics estimates (Hsiao 2007). The data used in this study was panel data taken from 1998 until 2019 (20 years) with cross section from two major palm oil producer Indonesia and Malaysia. These countries were chosen based export value of the palm oil to the world. The secondary data used in this study were exported from Central Bureau of Statistics, USDA (United States Department of Agriculture), Malaysia Palm Oil Industry – MPOC (Malaysia Palm Oil Company) and Trademap.

The method used in this research was multiple regression model to find out the influence of European Ban Policy, Export Activity, Palm oil price, and Palm Oil Production toward countries GDP. There are several studies that studies the impact of European sustainable policy toward Trade flows (Rosyadi, Darwanto, and Mulyo 2020), or the impact of European Ban measured by Global trade analysis model (Rifin et al. 2020) and yet there still lack of research mentioning the basic macroeconomic variables on this european policy. This

research is important to answer should we really consider to change the European opinion or we keep increasing the production and stayed focused on our competitive advantage as the world biggest Palm oil producers countries.

To examine the relationship of the dependent and three independent variables multiple regression analysis were applied for this study. Based on the explanation above, the formula formed for this study were as follows:

$$\text{Log}Y = \beta_0 + \beta_1\text{Log}x_1 + \beta_2\text{Log}x_2 + \beta_3\text{Log}x_3 + \beta_4x_4 + e \dots\dots\dots(1)$$

Y : GDP (Gross Domestic Product)

$\beta_0$  : Coefficient Beta

$\beta_1$ : Coefficient value of Export value

$\beta_2$ : Coefficient value of Palm Oil Prices value

$\beta_3$ : Coefficient value of Palm Oil Production

$\beta_4$ : Coefficient European Ban

x1: Value of Export value

x2: Value of Palm Oil Prices value

x3: Value of Palm Oil Production

x4: European Ban

e: random error

#### 4. Results and Discussion

The results shows that CPO played important role for Indonesia and Malaysia economic growth. Indonesia and Malaysia has taken 84.3% of total world exports of palm oil commodities 2019. It can be seen that the biggest player in the world are Indonesia and Malaysia. This is interesting since both of this countries severely limited by European Union to export palm oil products with various certification and ever conduct super tax while European country itself have their own vegetable oil and biodiesel fuel (Oosterveer 2020; Rahayu and Sugianto 2020; Rosyadi, Darwanto, and Mulyo 2020). This policy creates a trade war between Indonesia – Malaysia and the European Union.

In figure 1 shows that CPO export had played a significant role to lead the global market since Indonesia are the producer of 52% of CPO in the world. Since 1995 CPO export keep following the production line since we knew that the global market were ready to absorb Indonesia palm oil. But in 2009 the oil price are drop cause of the increase of supply in alternative oil (rapeseed oil).

In 2017 European Union imposed high tax to Indonesia Palm oil which creates problem in export value. As seen in figure 1 since 2015 to 2019 CPO export from Indonesia are facing near flat line growth because of European import ban. In the production side Indonesia palm oil keep pushing their supply since the government are ready to apply the biodiesel policy. According to Rahayu and Sugianto (2020)

The excess of palm oil production will be consumed by the national biodiesel policy.

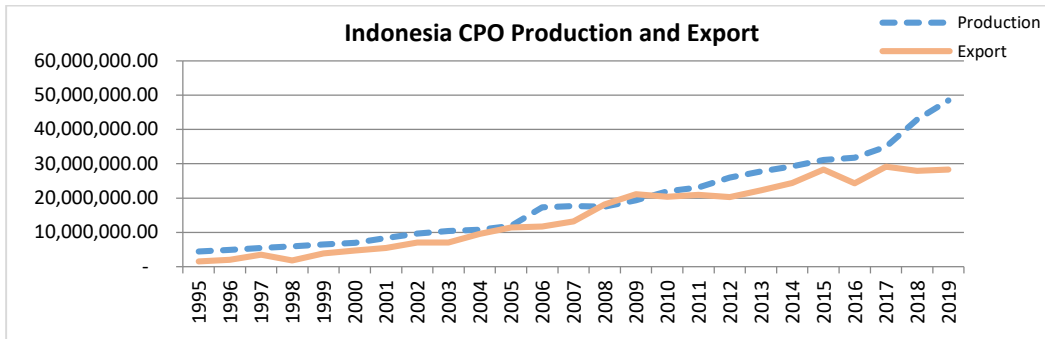


Figure 1. Indonesia CPO Production and Export growth 1995 – 2019

In Malaysia (Figure 2) the palm oil industry having positive growth since 1995 to 2015. Like Indonesia, They were facing the same ban from European union with the black campaign of palm oil industry Malaysia get a hard toll on this because their export activity are decreasing from 17 millions tons in 2014 to 16 millions tons in 2015 – 2017. This was because of the sustainability issue and the human rights issue in the palm oil plantation creates a bad image on palm oil product. All costumers from around the world were foreseeing the black campaign as the truth behind palm oil industry.

In accordance with the sustainability issue Malaysia had better condition compare to Indonesia with the investment climate and smallholders transformation (Senawi et al. 2019). Using unique mechanism Malaysian smallholders were bound with the Malaysia Sustainable Palm Oil (MSPO) to control the social, environmental, and social aspect.

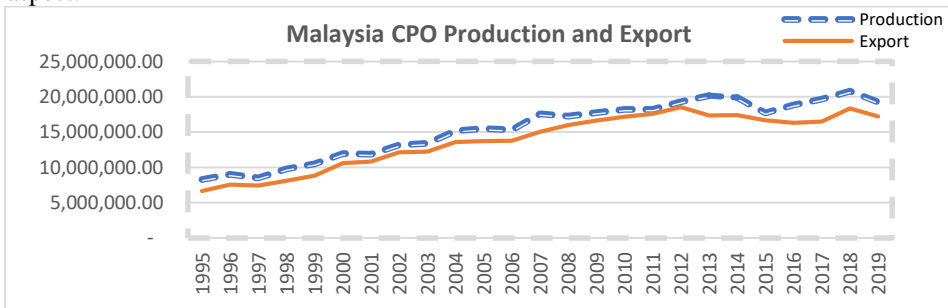


Figure 2. Malaysia CPO Production and Export growth 1995 – 2019

After we compare the fluctuation of the production and the export of CPO. In this part we do analysis based on the secondary data that we have collected previously. We then continue with data transforming to explain the interaction between variable more vividly (Trigeorgis 2015). Based on the regression results we found three significant relationship between dependent and independent variables.

To answer the relationship between the observed variable we used multiple regression analysis model. Based on the regression analysis it will determine the effect of the CPO production, export, price and EU ban with the countries' GDP. The regression results and model summary can be seen in table 1.

Table 1. Regression results of factors affecting Indonesia and Malaysia GDP based on Crude Palm Oil activity (CPO) to the world in 1995 – 2019

Table 1. Regression result

Variables	Coefficients	Std. Error	t	Sig
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(Constant)	2.459 **	1.119	2.197	0.030
Production	2.362 **	0.398	5.939	0.000
Export	-1.388 **	0.293	-4.732	0.000
Oil Price	0.513 **	0.153	3.346	0.000
EU_Ban	-0.060	0.110	-0.548	0.590
R <sup>2</sup>	0.866			
Adjusted R <sup>2</sup>	0.749			
Sig.	0.000			

Source: SPSS Analysis Multiple Regression

\*\* : Significant 5%

Note: All variable, exclude EU Ban, in Logarithmic (Log10)

The multiple regression equations as below:

Based on the results of multiple regression in table 1, we found three significant relationship and one not significant relationship. Based on the regression results there are significant relationship between export volume and countries GDP. Export volume negatively affect the GDP. This results because of the suppression effect of export and production factors to the GDP. According to Falk and Miller (1992) the suppression effect happens because of the close relationship between two variable are nearly zero, therefore we analyze the export value differently in table 2.

Table 2. Regression results with no suppression effect

Variables	1 <sup>st</sup> model			2 <sup>nd</sup> Model		
	Coefficients	t	Sig.	Coefficients	t	Sig.
(Constant)	6.674	7.239	0.00	4.91	4.088	0.00
Export	0.670	5.130	0.00			
Production				0.709	3.08	0.003
Oil Price				0.397	2.164	0.036
EU Ban	0.198	1.359	0.181	0.094	0.739	0.464
R <sup>2</sup>	0.422			0.625		
Adjusted R <sup>2</sup>	0.398			0.600		
Sig.	0.000			0.00		

Source: SPSS Analysis Multiple Regression

\*\* : Significant 5%

Note: All variable, exclude EU Ban, in Logarithmic (Log10)

The summary of the findings is as follows:

Based on the results in the table 2 there are significant effect of export volume to the country's GDP. There are positive relationship between the two variable as it can be seen from the coefficients column the value of export was 0.718

According to the results, CPO production volume significant value less than 0.03 and the t values is more than 1.97, it means that based on the regression analysis Production volume positively influence the country's GDP.

CPO oil price significantly affect countries GDP. CPO Price t values is 2.164 (>t Table) with statistical significance less than 0.05 meant that there is significant relationship toward countries GDP. Based on the coefficient value there is positive affect toward countries GDP.

European Union Ban shows no significant relationship in both model first and second. In table 2 based on the significant level ( $>0.05$ ) and the t value ( $<1.97$ ) in both model this factors shows positive yet not significant affect towards countries GDP.

Based on the second statistical analysis, we can therefore, deduce that according to the first model export value is pivotal factors that determine CPO country's economic growth. According to Rosyadi, Darwanto, and Mulyo (2020) Palm oil is one of the important commodities for Indonesia and Malaysia for countries economic growth eventhough the export ban agreed by the EU alliance it did not give any significant impact to our export value. Based on Rifin et al (2020) also found that the impact of the EU policy limiting their CPO import activity against Indonesia and Malaysia did not seem to change the export performance. it can be seen on the positive relationship with the country's GDP while the EU itself is not significant toward countries economics. Indonesia and Malaysia is the most prominent country in Palm oil industry even with the limitation of EU palm oil import both countries still maintain their CPO export performance.

EU sustainable policy seems not effecting the production of CPO in Malaysia and Indonesia. As it can be seen in the second model the only factors that not significant is the EU ban. Economy environment and society is the key of sustainable development (Khatun et al. 2017). EU cannot posing the rules and regulation without thinking about the people around the production area. All palm oil farmers are very depends on the Palm Oil production for the environmental, social system, and economic growth of the people within plantation area (Susanti et al. 2020).

The last factors that affecting countries GDP according to macroeconomics factors is CPO price. Based on the statistical result oil price are prominent factors influence the GDP of the countries. This findings contradicted with the findings Susanti et al. (2020) that mention the oil price are not supported with the country's economic growth because of the fluctuation of market. The CPO price fluctuation have a huge impact to the farmers and that could lead to catastrophic damage to the environmental and society around the plantation (Alam, Choy Er, and Begum 2005; Kanchymalay et al. 2017; Saptia and Ermawati 2013; Susanti et al. 2020).

The last factor, EU ban deemed not significant to the economic growth of Malaysia and Indonesia. This findings supported by the Oosterveer (2020) and Rifin et al. (2020) both of them saying that EU ban did not effective to stop palm oil plantation impact on the economic growth. The small portion of trade by EU makes it less important on this effect on Indonesia and Malaysia.

## **5. Conclusions and Policy Recommendation**

In this article, we have shown that concern about palm oil band Policy by the EU is not the biggest issue for Indonesia and Malaysia economic growth. One important conclusion from this article is the palm oil industry is highly depends on the market. Since the market is available the palm oil production and export will never affected by the EU ban Policy. High market demand on CPO derivatives will create opportunities for Indonesia and Malaysia palm oil. In the macroeconomic perspective with the CPO plantation in the remote area it could lessen inequality economic growth of the local people.

On the government side this article shows the quantitative fact on the effect of EU on the country's economic growth in this case GDP. Palm oil industry can be used as the main advantage or maybe concern as the absolute advantage of Indonesia and Malaysia. The government must provide a support on this industry against many negative campaign under EU policy. This industry also help local community in both countries to increase local economic growth (Kartikasari 2017; Senawi et al. 2019)

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