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Non Tarrif Barriers and Indonesian Crude Palm Oil Competitiveness in the International Market

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ABSTRACT
Indonesia is the world's largest producer of CPO. Currently, Indonesian CPO exports face both tariff and non-tariff barriers. Free trade agreements can only eliminate tariff barriers, and each country still seeks to protect local products with non-tariff barriers. These non-tariff barriers take the form of subsidies or support for domestic soybean oil and sunflower oil production. The purpose of this study is to determine the difference in the competitiveness of Indonesian CPO before and after the implementation of non-tariff barriers. The methods used in this study are revealed comparative advantage (RCA), export competitiveness index (ECI), export product dynamics, X model potential export product, and paired t-test. The data used was obtained from UN Comtrade and the Central Statistics Agency (BPS) from 2006 to 2023. The results show that non-tariff barriers, the competitiveness of Indonesian CPO commodities in the international market remains competitive .Non-tariff barriers has a significant effect on the competitiveness and export value of Indonesian CPO commodities in the international market. Indonesian CPO commodities still have a potential market at the international level. The conclusion is that despite non-tariff barriers, Indonesian CPO commodities are still able to compete in the international market.

Keywords: *crude palm oil, competitiveness, non-tariff barriers.*

INTRODUCTION

Crude Palm Oil (CPO) is Indonesia's main export commodity. A portion of Indonesia's foreign exchange earnings comes from CPO exports. This is because Indonesia is the world's largest producer of CPO. This commodity is sourced from palm oil plantations, most of which are located on Kalimantan and Sumatra islands. In addition to being a source of foreign exchange, CPO also plays a role in absorbing labor. Many workers are involved in the CPO industry, from upstream to downstream. Many industries depend on CPO, ranging from the food industry, bioenergy, to the chemical industry. CPO can also be used as bioenergy, thereby reducing imports of fossil fuels.

Indonesia's CPO export volume changes every year. Indonesia's CPO export volume from 2019 to 2022 has declined. In 2019, Indonesia's CPO export volume was 46.3 million tons and continued to decline until 2022, when Indonesia's CPO export volume was 44.7 million tons. In 2023, it returned to 46.3 million tons. This decline in import volume may be due to obstacles to Indonesian CPO exports in the international market.

In international trade, every country strives to protect its local products. This is done because if local products are not protected, they will potentially lose their competitive edge. The same applies to CPO trade at the international level. CPO exports in international trade face various obstacles, including non-tariff barriers. Non-tariff barriers applied by various countries hinder Indonesian CPO exports. Free trade agreements can only eliminate barriers in the form of import duties, but each country strives to protect local products in various ways, including non-tariff barriers.

The competitiveness of Indonesian CPO in the international market is strong, as evidenced by an RCA value of more than 1 (Azida et al., 2023). The study does not specifically explain how Non tarrif barriers policies affect the competitiveness of Indonesian CPO. Previous studies have stated that the competitiveness of Indonesian CPO with the Netherlands as an export destination has tended to decline from 2013 to 2018. This decline is related to the issue of Non tarrif barriers (Elfira et al., 2023). Other studies have also reported similar results. The position of CPO in the Dutch market tends to be unfavorable (Erizona et al., 2021). In addition to the competitiveness of CPO export volumes to

destination countries in the European Union, such as the Netherlands, Germany, Spain, Italy, and Greece, there is pressure due to the renewable energy directive (RED) policy (Salvacesa & Ervani, 2025).

This study aims to determine whether there is a difference in the competitiveness of Indonesian CPO between 2006–2014 and 2015–2023. The period from 2006 to 2014 was a period when a period when free trade agreements were not yet widely implemented, while the period from 2015 to 2023 was a period when the a period in which many free trade agreements have been concluded by various countries around the world.

METHOD

The methods used to analyze the competitiveness of CPO at the international level consisted of Revealed Comparative Advantage (RCA), Export Competitiveness Index (ECI), and Export Products Dynamics (EPD). This study uses secondary data from 2006 to 2023. The data was obtained from UN Comtrade. The CPO that is the subject of this research has the HS code 151110. The types and sources of data in this study are shown in Table 1.

Table 1. Types and Sources of Data

No	Type Data	Source
1	Indonesian and global CPO exports	(United Nations, 2023)
2	Total world commodity trade	(World Bank, 2023)
3	Indonesian exports and imports	(Badan Pusat Statistik, 2006) (Badan Pusat Statistik, 2008) (Badan Pusat Statistik, 2010) (Badan Pusat Statistik, 2012); (Ekspor & Migas, 2017a); (Badan Pusat Statistik, 2019); (Badan Pusat Statistik, 2020); (Badan Pusat Statistik, 2022); (Badan Pusat Statistik, 2023); (Badan Pusat Statistik, 2024a)

Source: Data processed, 2025

Revealed Comparative Advantage (RCA)

In this study, RCA was used to measure the competitiveness of Indonesian CPO in the global market. RCA is often used to measure the competitiveness of a commodity produced by a country (Pasolonk et al., 2023). The equation for calculating RCA is (Apriani et al., 2022):

$$RCA = \frac{X_{ij}/\sum iX_{ij}}{\sum jX_{ij}/\sum i\sum jX_{ij}} \quad (1)$$

Describtion :

X_{ij} : The value of Indonesian CPO exports

$\sum iX_{ij}$: Total value of Indonesian exports

$\sum jX_{ij}$: World CPO export value

$\sum i\sum jX_{ij}$:Total value of world exports

Export Product Dynamics (EPD)

In this study, EPD was used to examine Indonesia's CPO position in the international market. The EPD indicator has been frequently used to analyze the position of a commodity produced by a country that will be exported to another country (Miftah Akbar & Widyastutik, 2022). EPD is expressed in the equation (Azizi, 2023):

$$X : \frac{\sum_{t=1}^{t}\left(\frac{Xk}{Wk}\right)_t \times 100\% - \sum_{t=1}^{t}\left(\frac{Xk}{Wk}\right)_{t-1} \times 100\%}{T}$$

$$Y : \frac{\sum_{t=1}^{t}\left(\frac{Xt}{Wt}\right)_t \times 100\% - \sum_{t=1}^{t}\left(\frac{Xt}{Wt}\right)_{t-1} \times 100\%}{T}$$

Describtion

X_k : A country's CPO export value to the international market

W_k : Total value of CPO exports to international markets

X_t : Total value of CPO exports worldwide

W_t : Total value of all world exports
T : Number of years of analysis
t : Year

Export Competitiveness Index (ECI)
ECI is used to compare the exports of a commodity in a given period (t) with the previous period (t-1). ECI is calculated using the following formula (Erlangga, 2023)**:**

$$ECI = \frac{(Xki/Xw)_t}{(Xki/Xw)_{t-1}} \quad (5)$$

Describtion :
X_{ki} : CPO export value in year t
X_w : Total value of global CPO exports in year t
t : Year

Paired Test

In this study, paired tests were conducted based on normality tests. If the data were normally distributed, the paired sample t-test was used. If the data were not normally distributed, the Wilcoxon test was used. The paired sample t-test is a statistical test to compare variables that receive different treatments (Aulia et al., 2024). The Wilcoxon test is used when two paired data samples are not normally distributed. This test is classified as a parametric test (Wahyudin et al., 2022)**.**

RESULT AND DISCUSSION

Result

Indonesia is the world's largest producer of CPO. The value of Indonesia's CPO exports fluctuates annually. Indonesia's CPO exports are contributed by smallholder plantations and corporate plantations. Palm oil plantations that produce CPO are mostly located on the islands of Kalimantan and Sumatra. Indonesia's CPO exports have reached various countries around the world, from countries in Asia and Europe to America. The value of Indonesia's and the world's CPO exports is shown in Table 2.

Table 2. Indonesian and Global CPO Exports (In Million US$)

Year	Indonesian CPO exports	Total World CPO Exports	Total Indonesian Exports	Total World Exports
2023	3,055	9,388	258,774	23.930
2022	3,410	11,929	291,904	25.020
2021	2,694	11,377	231,610	22.410
2020	4,744	9,936	163,192	17.740
2019	3,642	7,351	167,683	19.100
2018	3,577	7,341	180,013	19.640
2017	4,698	8,439	168,828	17.830
2016	3,306	7,039	144,434	16.130
2015	4,388	8,688	150,253	16.650
2014	4,207	9,190	175,980	19.100
2013	4,979	9,418	182,552	19.060
2012	6,677	13,162	190,005	18.610
2011	8,777	14,736	203,497	18.430
2010	7,650	10,663	157,779	15.380
2009	5,702	8,110	116,490	12.650
2008	6,561	9,654	136,762	16.270
2007	3,739	5,786	113,993	14.110
2006	1,994	3,316	100,798	12.200
Average	4,655	9,196	174,141	18014,444

Sumber: (United Nations, 2023); (Badan Pusat Statistik, 2006)(Badan Pusat Statistik, 2024b)

Revealed Comparative Advantage (RCA)

The competitiveness of Indonesian CPO from 2006 to 2023 is very strong, with an average RCA value of 55.239. If the RCA value is greater than 1, the commodity can be said to have strong competitiveness, and vice versa, if the RCA value is less than 1, its competitiveness is weak. The higher the RCA value, the stronger the competitiveness (Tasya et al., 2022). This strong competitiveness indicates that Indonesian CPO is in demand in the international market. The factor behind the strong competitiveness of Indonesian CPO is the availability of land. Indonesia has the largest area of oil palm plantations in the world. In addition, the climate is also conducive to oil palm cultivation. Oil palms are a type of plant that grows well in tropical areas and requires high sunlight intensity. Indonesia has a tropical climate and is crossed by the equator, so the sunlight intensity is very high.

There is a tendency for the competitiveness of Indonesian CPO to decline. In 2006, the competitiveness of Indonesian CPO was 72.76 and continued to decline until 2023, when the competitiveness of Indonesian CPO was 20.09. This decline in competitiveness not only has an impact on the decline in foreign exchange reserves but also has an impact on the welfare of the community. Indonesia's CPO exports come not only from plantations owned by private companies but also from plantations owned by the people. Indirectly, the decline in CPO competitiveness has led to a decline in the income of oil palm plantation farmers. Indonesia's CPO competitiveness based on RCA and ECI can be seen in Table 3**.**

Table 3. Revealed Comparative Advantage (RCA) and Export Competitiveness index (ECI) CPO Indonesia

Year	Indonesian CPO exports (Million US$)	Total World CPO Exports (Million US$)	Total Indonesian Exports (Million US$)	Total World Exports (Million US$)	RCA	ECI
2023	3,055	9,388	258,774	23.930	30,09	
2022	3,410	11,929	291,904	25.020	24,50	0,878
2021	2,694	11,377	231,610	22.410	22,91	0,828
2020	4,744	9,936	163,192	17.740	51,90	2,016
2019	3,642	7,351	167,683	19.100	56,43	1,038
2018	3,577	7,341	180,013	19.640	53,16	0,984
2017	4,698	8,439	168,828	17.830	58,80	1,143
2016	3,306	7,039	144,434	16.130	52,45	0,844
2015	4,388	8,688	150,253	16.650	55,97	1,076
2014	4,207	9,190	175,980	19.100	49,68	0,906
2013	4,979	9,418	182,552	19.060	55,19	1,155
2012	6,677	13,162	190,005	18.610	49,68	0,960
2011	8,777	14,736	203,497	18.430	53,94	1,174
2010	7,650	10,663	157,779	15.380	69,93	1,205
2009	5,702	8,110	116,490	12.650	76,35	0,980
2008	6,561	9,654	136,762	16.270	80,85	0,967
2007	3,739	5,786	113,993	14.110	79,99	0,951
2006	1,994	3,316	100,798	12.200	72,76	0,930
Average	4,655	9,196	174,141	18014,444	55,254	1,061

Source: Data processed, 2025

Previous studies have shown similar results to this study. Indonesia's CPO competitiveness from 1993 to 2017 was strong, with an average RCA of 37.22(Zuhdi et al., 2021). Another study also explains the same results. Indonesia's CPO competitiveness during the period 2012 to 2019 was relatively strong with an average RCA of 46.15 (Sukirno & Romdhon, 2020)**.**

Export Competitiveness Index (ECI)

Based on RCA, Indonesia's CPO competitiveness is still relatively strong, but the ECI value shows something different. The ECI value shows that Indonesia's CPO competitiveness is not very strong. Indonesia's average ECI from 2006 to 2023 is 1.06. Based on this value, the competitiveness of Indonesian CPO cannot be said to have weakened, but neither can it be said to have strengthened, so it can be said that there is a potential for the competitiveness of Indonesian CPO to weaken in the future. This is because since 2006 there has been no significant increase in the ECI of Indonesian CPO. Non-tariff barriers experienced by Indonesian CPO commodities are also a factor in why there has been no significant increase in the ECI for Indonesian CPO.

These ECI results are not much different from previous studies. The average ECI value for Indonesian CPO from 2012 to 2021 was 1.03 (Riwaldi et al., 2023). Another study analyzing the ECI of Indonesian CPO commodities from 1999 to 2019 also reported the same results. The ECI value for Indonesian CPO from 1999 to 2019 was 1.02 (Utsaha et al., 2022).

To determine whether there is a difference in competitiveness before and after the imposition of non-tariff barriers, a paired test was used. Before conducting the paired test, a data normality test was first performed to determine whether the data was normally distributed or not. The data normality test in this study used the Shapiro Wilk test. This test was chosen because the sample size used was relatively small. The results of the Shapiro Wilk test are shown in Table 4.

Table 4 . Data Normality Test Saphiro Wilk

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
Pretest	0,225	9	.200*	0,854	9	0,082
Posttest	0,343	9	0,003	0,775	9	0,010

Source: Data processed, 2025

Based on the normality test, it can be seen that the post-test data is less than 0.05, so the data is not normally distributed. Because the data is not normally distributed, the paired test used is the Wilcoxon test. This test is carried out by comparing two groups of data. The first group of data is competitiveness before the existence of non-tariff barriers, namely from 2006 to 2014. The second group of data is Indonesia's CPO competitiveness data after the existence of non-tariff barriers, namely between 2015 and 2023. The Wilcoxon test results are shown in Table 5**.**

Table 5. Paired Test Wilcoxon Indonesian CPO

	Posttest - Pretest
Z	-2.666[b]
Asymp. Sig. (2-tailed)	0,008

Source: Data processed, 2025

Based on the Wilcoxon test, it can be seen that the Asymp. Sig. (2-tailed) value is 0.008. An Asymp. Sig. (2-tailed) value of less than 0.05 indicates that there is a significant difference between the pre-test and post-test (Mulyani et al., 2023). Based on the Wilcoxon test, it can be stated that there is a significant difference between before and after non-tariff barriers to Indonesian CPO. These results are reinforced by other studies. The variables of competitor country competitiveness and energy use policies affect CPO exports (Salvacesa & Ervani, 2025).

Export Product Dynamics (EPD) and X Model

EPD consists of four positions, namely rising star, falling star, lost opportunity, and retreat. Based on the results of calculations using EPD, market growth (X-axis) has a positive value of 0.186 and market attractiveness growth (Y-axis) is also positive at 0.003. When converted into the EPD matrix, this value places Indonesian CPO in the Rising Star position because the export share (X) is positive and the product share (Y) is also positive. Based on the EPD, it can be seen that Indonesian CPO is in an advantageous position. The rising star position indicates that it has the potential to gain the highest export share (Augustin et al., 2022). Non tarrif barriers issues has not changed the position of Indonesian CPO in the international market. Despite Non tarrif barriers issue, Indonesian CPO remains in the rising star position, which means positive export growth and positive market appeal. Export product dynamics can be seen in Table 6.

Table 6. Export Product Dynamic

Share of Country's Export in World Trade (X)	Share Of Product In World Trade (Y)	
	Rising / Dinamis (+)	Falling / Stagnan (-)
Rising / Competitive (+)	Optimal Rising Star	Vulnerable Falling star
Falling / Non Competitive (-)	Weakness Lost opportunity	Restructuring Retreat

Source: (Budiarto & Pratita, 2022)

Based on the X model with an RCA value of more than 1 and in a rising star position, the Indonesian CPO market at the international level is classified as an optimistic market. Despite Non tarrif barriers issues, the Indonesian CPO market remains optimistic at the international level, meaning that Non tarrif barriers issues can only reduce the competitiveness of Indonesian CPO, but to date, no country has been able to shift Indonesia's dominance in the international market. The Indonesian CPO market based on the X Model is shown in the Table 7**.**

Table 7. X Model

EPD	RCA >1	RCA <1
Rising star	Optimistic market development	Potential market development
Lost opportunity	Potential market development	Less potential market development
Fallings star	Potential market development	Less potential market development
Retreat	Less potential market development	Non-potential market development

Source: (Simamora & Nadapdap, 2021)

Discussion

The decline in the competitiveness of Indonesian CPO is influenced by several factors. The factors causing the decline in the competitiveness of Indonesian CPO consist of internal and external factors. The most dominant internal factor is crop productivity, logistic and transportation. The productivity of oil palm crops greatly affects the competitiveness of Indonesian CPO. A decline in productivity will reduce the value and volume of exports, thereby impacting the competitiveness of Indonesian CPO. Basically, the area of productive plantations in Indonesia is very high. However, this large area of productive plantations is not matched by an increase in productivity. From 1995 to 2024, the area of productive plantations increased by 8.61%, while productivity increased by only 0.44% (Kementerian Pertanian, 2024)**.** Domestically, transportation and logistics issues also pose a challenge. Many palm oil plantations are located far from ports, making it difficult to transport crops to ports. Small farmers are most affected by this issue, causing them to think twice about exporting due to the high logistics and transportation costs.

External factors such as non tarrif barriers like renewable energy directives, fierce competition in the international market, and price fluctuations also affect the value of palm oil exports**.** In international trade, every country seeks to protect its domestic industries. Some countries subsidize soybean oil and sunflower oil production. This causes soybean oil and sunflower oil prices to be lower, forcing Indonesian CPO to compete with cheaper soybean oil and sunflower oil. This problem hinders Indonesian CPO exports. In addition, CPO exports also face the challenge of unstable demand. This instability in CPO demand is influenced by crude oil prices. Crude oil production is influenced by the policies of countries that are members of OPEC. The decision of OPEC member countries to increase or decrease production will affect crude oil prices. If crude oil prices increase, demand for CPO will also increase because CPO can be used as an alternative energy source to crude oil or fossil fuels.

The price of CPO on the world market also affects the competitiveness of Indonesian CPO. If the price of CPO on the world market declines, the competitiveness of Indonesian CPO also has the potential to decline. The average growth rate of CPO prices in the international market from 2021 to 2023 has tended to decline. The average growth rate of CPO prices on the world market from 2021 to 2023 is -8.83 (Kementerian Pertanian, 2024).

The intense competition in the international market can also affect the competitiveness of Indonesian CPO. In the international market, Indonesia faces stiff competition from Malaysia. Malaysia is the second largest CPO producer after Indonesia. Malaysia also has the second largest area of oil palm

plantations after Indonesia. In other words, Indonesia is no longer the main player in terms of CPO exports.

The decline in the competitiveness of Indonesian CPO has had both negative and positive effects. With the reduction in CPO exports abroad, domestic industries that require CPO, such as the food, oleochemical, and other industries, will have their needs met. Indirectly, the decline in CPO exports abroad will be able to revive the domestic industry. On the one hand, state revenue from CPO exports will decrease, but on the other hand, the domestic industry can continue to run well because the supply of CPO is sufficient. This is a positive thing because the industrial sector is a sector that supports the economy.

Another positive impact of the decline in CPO competitiveness due to reduced exports is the ability to reduce dependence on fossil fuels. The biodiesel program aims to reduce dependence on fossil fuels by combining fossil fuels with renewable energy such as CPO. The biodiesel program will reduce the oil and gas trade deficit. The abundant domestic supply of CPO can also be used to address the issue of declining domestic petroleum reserves. Petroleum is a non-renewable natural resource. The availability of CPO can reduce dependence on petroleum as a result of declining petroleum reserves.

Currently, competition for CPO in the international market is also becoming increasingly fierce. Malaysia is the second largest CPO producer after Indonesia. In terms of CPO trade in the international market, Malaysia is Indonesia's main competitor. In terms of land area, Malaysia is still behind Indonesia, but Malaysia has an advantage in terms of productivity. The productivity of oil palm plantations in Malaysia is 3.96 tons/ha/year, which is higher than the productivity of oil palm plantations in Indonesia, which is only 2.70 tons/ha/year (Elfira et al., 2023).

CONCLUSION

The competitiveness of Indonesian CPO in the international market is relatively strong. Non-tariff barriers have a significant impact on the competitiveness of Indonesian CPO. The existence of non-tariff barriers has not affected the position of Indonesian CPO. In the international market, the position of Indonesian CPO remains optimistic.

REFERENCES

Apriani, D., Feny, M., & Igamo, M. A. (2022). Indonesian Coffee at the International Market. *Jurnal Paradigma Ekonomika*, *17*(2), 2684–7868.

Augustin, N. P., Prasetyo, E., & Santoso, S. (2022). Analisis Daya Saing dan Trend Ekspor Kakao Indonesia ke Lima Negara Tujuan Tahun 2010-2019. *Jurnal Ekonomi Pertanian Dan Agribisnis*, *6*(2), 442–455. https://doi.org/10.21776/ub.jepa.2022.006.02.10

Aulia, U., Junaidi, H., Setiawan, D. I., PS., D. K., Meidatuzzahra, D., Nirmala, I. R., Nadjib, H. R., Sari, M. P., Syilfi, Rakanita, Y., Astuti, N. H., & Larasati, R. D. (2024). *Statistik parametrik (teori dan aplikasi dengan spss)* (H. Akbar (ed.); Issue November). CV Media Sains Indonesia. https://www.researchgate.net/publication/386020471_STATISTIK_PARAMETRIK_TEORI_DAN_APLIKASI_DENGAN_SPSS

Azida, S., Yamin, M., & Riswani, R. (2023). Analisis Daya Saing Crude Palm Oil (CPO) Indonesia Di Pasar Internasional`. *Agrica: Journal of Suistainable Dryland Agriculture*, *16*(1), 84–94. https://doi.org/10.37478/agr.v16i1.2732

Azizi, E. S. (2023). Daya Saing Kopi Indonesia di Pasar Internasional Dalam 3 Dekade Terakhir. *Journal of Agribusiness Science and Rural Development (JASRD)*, *3*(1), 45–59.

Badan Pusat Statistik. (2006). Perkembangan Ekspor dan Impor Indonesia. In *Berita resmi statistik No.12/IX/1 Maret 2006* (Issue 64).

Badan Pusat Statistik. (2008). Perkembangan Ekspor Dan Impor Indonesia Desember 2007. *Berita Resmi Statistik No. 07/02/Th. XI, 1 Februari 2008*, *31*, 1–14.

Badan Pusat Statistik. (2010). Perkembangan Ekspor Dan Impor Indonesia Desember 2009. In *Berita Resmi Statistik No. 07/02/Th. XIII, 1 Februari 2010* (Vol. 2009, Issue 31).

Badan Pusat Statistik. (2012). Perkembangan Ekspor Dan Impor Indonesia Desember 2011. In *Berita Resmi Statistik No. 08/02/Th. XV, 1 Februari 2012* (Issue 31).

Badan Pusat Statistik. (2019). Statistik Perkembangan Ekspor dan Impor Indonesia Januari 2020. In *Perkembangan Ekspor dan Impor Indonesia Desember 2018 No. 05/01/Th.XXII, 15 Januari 2019* (Issue 71). www.bps.go.id/pressrelease/2020/02/17/1675/ekspor-januari-2020-mencapai-us-13-41-miliar-dan-impor-januari-2020-sebesar-us-14-28-miliar.html.

Badan Pusat Statistik. (2020). Perkembangan Ekspor dan Impor Indonesia Desember 2019. In *Perkembangan Ekspor dan Impor Indonesia Desember 2019 No. 06/01/Th.XXIII, 15 Januari 2020* (Vol. 01, Issue 06). https://www.bps.go.id/pressrelease/2020/01/15/1734/ekspor-desember-2019-mencapai-us-14-47-miliar--sedangkan-nilai-impor-mencapai-us-14-50-miliar.html

Badan Pusat Statistik. (2022). Perkembangan Ekspor dan Impor Indonesia, Desember 2021. In *Berita Resmi Statistik No.05/01/Th.XXV, 17 Januari 2022* (Issue 05).

Badan Pusat Statistik. (2023). Perkembangan Ekspor dan Impor Indonesia Desember 2022. In *Berita Resmi Statistik No. 30/04/Th. XXII, 15 April 2019* (Issue 64).

Badan Pusat Statistik. (2024a). Perkembangan Ekspor dan Impor Indonesia. In *Berita Resmi Statistik No. 30/04/Th. XXII, 15 April 2019* (Issue 64).

Badan Pusat Statistik. (2024b). Perkembangan Ekspor Impor Desember 2023. In *Berita Resmi Statistik No.06/01/Th.XXVII, 15 Januari 2024: Vol. No. 06/01/* (Issue 06).

Budiarto, R., & Pratita, D. G. (2022). Citrus Export Performances of Southeast Asian Countries: A Comparative Analysis. *Jurnal Teknotan*, *16*(1), 7. https://doi.org/10.24198/jt.vol16n1.2

Ekspor, P., & Migas, E. (2017a). Perkembangan Ekspor Dan Impor Indonesia Desember 2016. In *Berita Resmi Statistik No. 09/02/Th. XVI, 1 Februari 2013* (Issue 06).

Ekspor, P., & Migas, E. (2017b). Perkembangan Ekspor Dan Impor Indonesia Desember 2016. In *Berita Resmi Statistik No. 06/01/Th. XIX, 15 Januari 2016 PERKEMBANGAN* (Issue 06).

Ekspor, P., & Migas, E. (2017c). Perkembangan Ekspor Dan Impor Indonesia Desember 2016. *Berita Resmi Statistik No. 06/01/Th.XX, 16 Januari 2017*, *06*, 1–16.

Elfira, N., Amir, I. T., & Widayanti, S. (2023). Komparasi Daya Saing Crude Palm Oil (CPO) Indonesia dan Malaysia di Negara Tujuan Utama Ekspor Utama. *Jurnal Pertanian Agros*, *25*(1), 926–935.

Erizona, C., Mt Napitupulu, D., & Ningsih, R. (2021). Analisis Posisi Daya Saing Crude Palm Oil (Cpo) Indonesia Di Enam Negara Importir Utama. *Journal Of Agribusiness and Local Wisdom*, *4*(2), 2621–1297.

Erlangga, K. A. (2023). Analisis Daya Saing Ekspor Produk Kentang Indonesia Terhadap Pasar Asean. *Jurnal Multidisiplin Indonesia*, *2*(8), 1840–1854. https://jmi.rivierapublishing.id/index.php/rp

Kementerian Pertanian. (2024). Outlook Komoditas Perkebunan Kelapa Sawit. *Pusat Data Dan Sistem Informasi Pertanian Sekretariat Jenderal Kementerian Pertanian*, 1–78. https://satudata.pertanian.go.id/details/publikasi/696

Miftah Akbar, F., & Widyastutik. (2022). Analysis of Competitiveness, Dynamics, and Determinants of Main Commodity Export Demand from Indonesia to United Kingdom. *Jurnal Ekonomi Dan Kebijakan Pembangunan*, *11*(2), 108–131. https://doi.org/10.29244/jekp.11.2.2022.108-131

Mulyani, M., Zainuddin, Z., & Setiawan, B. (2023). Dampak Peremajaan (Replanting) Kelapa Sawit Terhadap Kondisi Ekonomi Petani Plasma Di Desa Bukit Jaya Kecamatan Sungai Lilin Kabupaten Musi Banyuasin. *Jurnal MeA (Media Agribisnis)*, *8*(1), 22. https://doi.org/10.33087/mea.v8i1.149

Novianto, E., Lembasi, M., & Rostanto. (2021). *Sawit Rakyat Dan ISPO Pekebun*.

Pasolonk, B. L. H., Juniar, J. M., Maharani, M., Raviqois, R. R., & Adelia, R. P. (2023). Daya Saing Indonesia Dalam Ekspor Kopi Dunia. *SENTRI: Jurnal Riset Ilmiah*, *2*(3), 624–632. https://doi.org/10.55681/sentri.v2i3.599

Riwaldi, S., Kartika, I., Wijayanti, E., & Kusnaman, D. (2023). Analisis Daya Saing Ekspor Cpo Indonesia Di Pasar Internasional Competitiveness Analysis of Indonesian Cpo Export in the International Market. *Jurnal Ekonomi Pertanian Dan Agribisnis (JEPA)*, *7*(4), 1244–1257.

https://doi.org/10.21776/ub.jepa.2023.007.04.5

Salvacesa, A., & Ervani, E. (2025). Pengaruh Daya Saing Kompetitor Dan Determinan Lainnya Terhadap Ekspor Kelapa sawit Indonesia Di Tengah Kebijakan Renewable Energy Directive. *Peradaban Journal Of Economics And Business*, *4*(2), 125–137.

Simamora, L., & Nadapdap, H. J. (2021). Daya Saing dan Potensi Ekspor Melati Putih Segar (Jasminum sambaac) Indonesia. *Jurnal Agrica*, *14*(2), 183–194. https://doi.org/10.31289/agrica.v14i2.5048

Sinaga, V. S., & Foekh, R. M. E. (2021). Kebijakan Uni Eropa Red Ii Dan Delegated Act Terhadap Perdagangan Produk Kelapa Sawit Indonesia. *Jurnal Bina Mulia Hukum*, *6*(1), 103–115. https://doi.org/10.23920/jbmh.v6i1.197

Sukirno, S., & Romdhon, M. M. (2020). Analisis Daya Saing Komparatif Cpo Indonesia Di Negara Tujuan Utama. *Jurnal Imiah Management Agribisnis (Jimanggis)*, *1*(1), 1–8. https://doi.org/10.48093/jimanggis.v1i1.38

Tasya, S., Suhaeni, & Wijaya, I. P. E. (2022). Analisis Daya Saing Komparatif Komoditas Kopi (Coffea Sp.) Indonesia Di Pasar Internasional. *Jurnal Ilmiah Wahana Pendidikan*, *8*(12), 335–341. https://doi.org/10.5281/zenodo.6945650

United Nations. (2023). *Trade Data*. https://comtradeplus.un.org/TradeFlow?Frequency=A&Flows=X&CommodityCodes=TOTAL&Partners=0&Reporters=all&period=2024&AggregateBy=none&BreakdownMode=plus

Utsaha, A., Utami, A. D., & Suharno, S. (2022). Perbandingan Daya Saing Crude Palm Oil (CPO) Antara Indonesia dan Malaysia di Pasar Internasional. *Jurnal Penelitian Kelapa Sawit*, *30*(2), 95–108. https://doi.org/10.22302/iopri.jur.jpks.v30i2.177

Wahyudin, Rismaningsih, F., Hernaeny, U., Anggraeni, E. F., Asuti, F., Saka, B. G. M. ., Oktavia, Y., Indrayana, I. P. ., Nusantari, D. O., Sudirman, Aziza, N., Setiawan, J., & Supriyanto. (2022). *Pengantar Statistika 2* (S. Haryanti (ed.)). CV Media Sains Indonesia. https://books.google.co.id/books?id=Vm1XEAAAQBAJ

World Bank. (2023). *Merchandise Exports*. https://data.worldbank.org/indicator/TX.VAL.MRCH.CD.WT?end=2024&start=2006

Zuhdi, D. A. F., Abdullah, M. F., Suliswanto, M. S. W., & Wahyudi, S. T. (2021). The Competitiveness of Indonesian Crude Palm Oil in International Market. *Jurnal Ekonomi Pembangunan*, *19*(1), 111–124. https://doi.org/10.29259/jep.v19i1.13193