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Impact Analysis of Rules of Origin (ROO) and Tariff on Indonesia Export Performance: Case Study on Indonesia-Japan's Trade under AJCEP and IJEPA

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Abstrak

Jepang merupakan salah satu mitra dagang utama Indonesia. Penelitian ini bertujuan untuk menganalisa pengaruh tingkat restriksi Ketentuan Asal Barang/*Rules of Origin* (ROO) terhadap kinerja ekspor dan utilisasi pada skema IJEPA dan AJCEP. Studi ini mereplikasi penelitian sebelumnya dengan menggunakan *Rules of Origins* (ROO) index yang dibangun berdasarkan aturan Ketentuan Khusus Produk/*Product Specific Rules* (PSR) pada produk HS6 digit untuk menggambarkan restriksi. Penelitian ini membuktikan tingkat restriksi ROO memiliki pengaruh negatif terhadap total ekspor maupun utilisasi skema kedua FTA. Peningkatan tarif yang berlaku juga berdampak menurunkan total ekspor, sedangkan tingkat margin tarif selaras dengan tingkat utilisasi FTA. Pengaturan PSR yang fasilitatif diharapkan dapat meningkatkan kinerja ekspor dan utilisasi skema kerjasama perdagangan internasional.

Keywords: Ekspor, FTA, *International Trade,* Jepang, *Rules of Origin.*

Abstract

Japan is one of main Indonesia's trading partners. This research aims to analyse the impact of ROO's restrictiveness on the Indonesia export performance and the utilisation of preferential schemes for both IJEPA and AJCEP. Adopting the previous study, this study constructs Rules of Origins (ROO) Index based on Product Specific Rules (PSR), as proxy of ROO, at 6-digit HS level to measure the restrictiveness level. This research found that the restrictiveness of ROO has a negative impact on total exports and utilisation for both FTAs. Increasing rate of applied tariff would reduces the total export, while the rate of margin tariff positifely impacts the utilisation rate. Providing facilitative PSR would likely improve export performance and utilisation of international trade agreements.

Keywords: Export, FTA, International Trade, Japan, Rules of Origin.

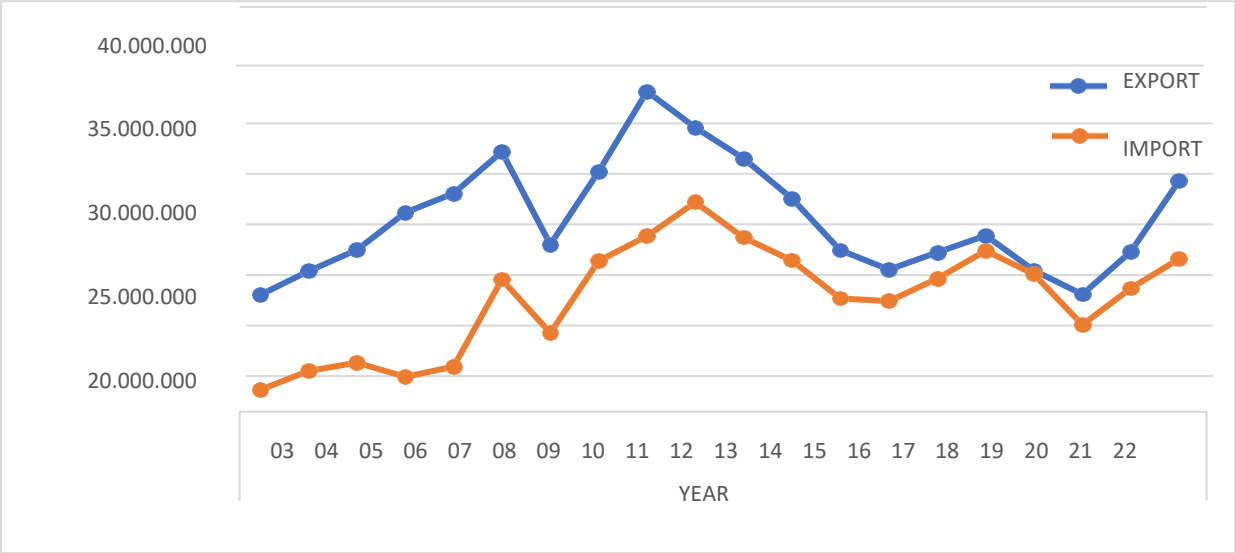
INTRODUCTION

Free trade agreements primarily seek to eliminate trade barriers, including both tariff and non-tariff barriers, among member countries, with the objective of enhancing the economic welfare of the countries that participate. Japan is one of Indonesia's main trade partners which have two free trade agreements in both bilateral and regional level. Indonesia and Japan have a bilateral agreement called the Indonesia-Japan Economic Partnership Agreement (IJEPA), which was signed in August 2007 and become effective on July 1, 2008 (entry into force). Japan agreed to reduce 90% of the total 9,262 tariff lines, while Indonesia agreed to open 92.5 % of the total 11,162 tariff lines as part of a trade liberalization agreement. In the meantime, Indonesia and nine other ASEAN nations have agreed to the ASEAN-Japan Comprehensive Economic Partnership (AJCEP) by eradicating 84.5% of all Japanese tariff lines agreed to in 2010 and effective for Indonesia as of March 1, 2018.

Figure 1 illustrated the trade profile between Indonesia and Japan during the previous decades. The implementation of IJEPA resulted in a notable increase in the value of Indonesia's exports. Specifically, there was an increasing of 6 billion USD in export between 2008 and 2011. The total export reached33.7 billion USD in 2011 compared to 27.7 billion USD in 2008. Nevertheless, there was a declining in export after this increasing phase until 2017. The AJCEP, which entered into force in 2018, did not contribute significant improvements in Indonesia's export performance aside of affected by Global Financial Crisis at 2019 which dragged decreasing in trade performance both countries.

In theory, establishing of trade agreements should drive an increasing value of Indonesian exports to Japan by reducing the tariff. According to the data provided by the World Trade Organization (WTO) in Figure 2, Japan's average import duty rates over the years has declined consistently, encompassing both Most Favored Nation (MFN) and preferential rates. From 2012 to 2020, there is slightly decreasing of the Japanese's applied MFN tariff which its average was recorded at 3.06%. Under the IJEPA, average preferential tariff is decreasing 1.02% per year in average, while the average AJCEP's tariff is declining 1.13% per year. In 2012, the average tariff rate for IJEPA is recorded at 1.29%, while AJCEP is of 1.49%. However, by 2020, the average preferential tariff has decreased to 0.83% for IJEPA and 0.86% for AJCEP. The fact that there is increasing gap between MFN and Preferential Tariff, which called margin tariff, shows the utilizing the preferential tariff should increase the trade activities.

Figure 1. Import-Exports of Indonesia - Japan, 2003-2017 (USD Million)



Source: Statistics Indonesia (2023), processed.

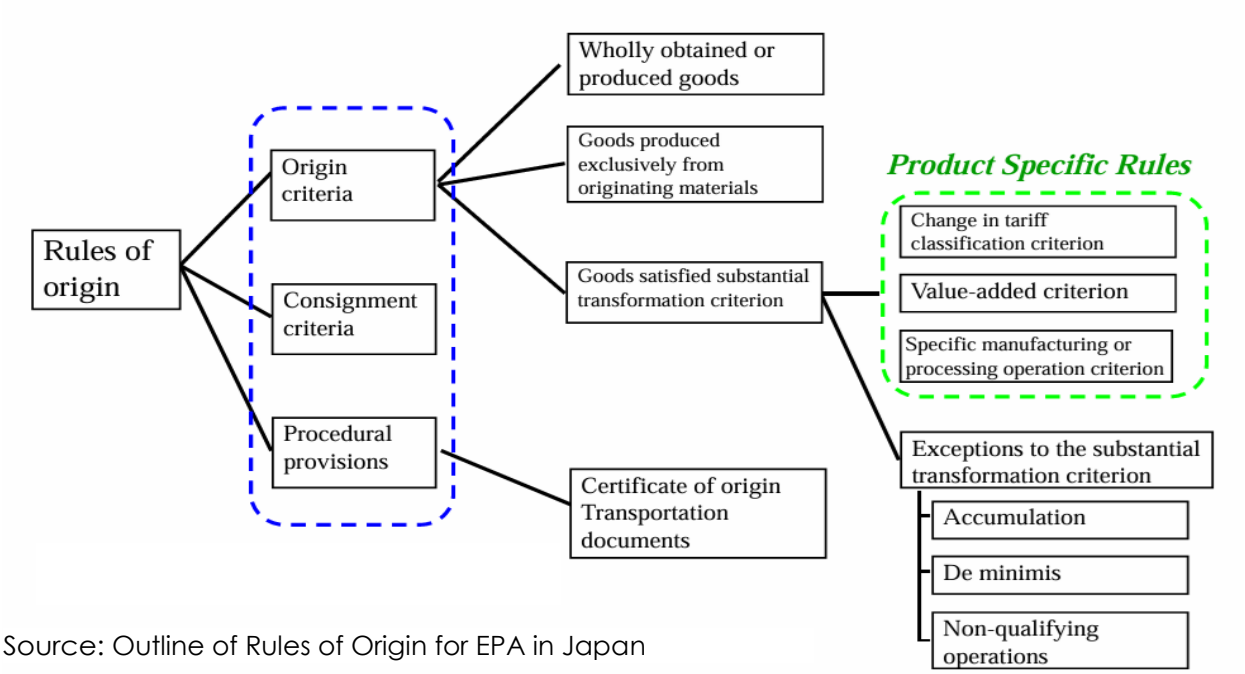
However, the fact that the level of utilization, which is reflected by the rate of utilization of Certificate of Origin (COO) and the necessity to fulfill the rules outlined in the Rules of Origin (ROO), was not align with the number of product coverage rate provided by Indonesia in each FTA with its partner countries. According to a report by the Ministry of Trade of Indonesia, the average annual utilization rate of imports from Japan ranged from 60% to 76%. In a study conducted by Sitepu and Nurhidayat (2015) which discovered that the average coverage rate of tariff line liberalization of the examined FTAs has exceeded 90%. However, the average utilization rate of these FTAs is only 28%. According to Falianty (2018), the ACFTA exhibits the highest utilization among Indonesia's FTA which recorded around 35.98%. It is closely followed by the ASEAN-Korea Free Trade Agreement (AKFTA) at 33.61%, the Indonesia-Japan Economic Partnership Agreement (IJEPA) at 32.65%, the ASEAN Free Trade Area (AFTA) at 30.43%, and the ASEAN-India Free Trade Agreement (AIFTA) at the lowest utilization rate of 6.05%.

The FTA's utilization rate is affected by the restrictiveness' level of ROO. According to Lee's (2016) study, the implementation of restrictive *R*OO in FTA can have a counterproductive effect on the intended goals of the FTA, such as trade diversion and trade creation, across 33 OECD countries. Exporters face challenges in capitalizing on this opportunity due to the imposition of restrictive ROO requirements on certain products. Consequently, exporters and importers prefer not to utilize the Free Trade Agreement (FTA) or opt-out from utilizing the existing tariff margin by refraining from providing the COO on their products. The objective of this study is to examine the impact of ROO arrangements on the export performance of Indonesian products to Japan, as well as the utilization of special preference facilities provided by IJEPA and AJCEP. The analysis will be conducted by using 6-digit Harmonized System (HS) Code level for the period of 2012-2021. This study exclusively examines the Indonesia's implementation of the IJEPA and AJCEP trade agreements as an exporting country. This paper does not encompass both analysis of the importation of Japanese goods into Indonesia through the IJEPA and AJCEP frameworks, and considering the involvement of other ASEAN countries within the AJCEP scheme.

ROO is an international rule used to determine the origin of goods should be fulfilled if exporter wants to claim a preferential tariff which lower than MFN tariff. This rule is generally agreed upon and defined in the FTA's negotiation. ROO helps to minimize trade deflection, which occurs when items from non-member FTA nations are imported into FTA member countries with relatively lower tariff margins, then re-exported utilizing preferential tariffs to gain larger tariff margins. On the other side, the occurrence of potential abuse is highly probable, in such instances, the use of ROO proves valuable in discerning various forms of discriminatory trade measures. ROO is an essential trade instrument in terms of policy. It is not only used to determine the origin of commodities, but also utilized to address various commercial policy instruments and to achieve specific national or international policy objectives. In addition to mitigating trade deflection, ROO can serve as a mechanism to address unfair trade practices, such as the imposition of anti-dumping or countervailing duties on imported goods that result in significant harm to domestic industries. ROO plays a role in safeguarding domestic industries, which serving as a means of evaluating eligibility for Generalized System of Preferences (GSP) benefits provided by developed nations, regulating domestic market entry, implementing sanitary measures, and safeguarding national security or political objectives.

There are three essential elements involved in the compliance with Rules of Origin illustrated in Figure 3, namely the satisfaction of Origin Criteria, Consignment Criteria, and Procedural Provisions. These components must be duly adhered to throughout the exportation procedure. In relation to meeting the Origin Criteria, the verification of an item's originating status can be established through the following conditions: 1) Wholly Obtained or Produced Goods (referring to goods that

Figure 2. Elements in Rules of Origin



Source: Outline of Rules of Origin for EPA in Japan

are entirely derived or manufactured within the exporting country, devoid of any imported raw materials from other nations); 2) Goods Produced Exclusively (referring to goods produced by the exporting country utilizing raw materials sourced exclusively from Free Trade Agreement member countries); or 3) Goods Satisfied Substantial Transformation Criterion (indicating goods produced using non-originating raw materials, wherein a substantial change has occurred from the initial raw materials to the final finished goods).

From the perspective of manufactures and exporters who utilise the FTAs, ROO hold significant importance as they will influence production strategies and the procurement of the raw materials. If the ROO arrangements are restrictive, it may hinder exporters' ability to fulfill raw materials or supporting goods from its country. On the other hand, A liberal ROO arrangement, particularly on finished goods, will derive negative impact, particularly on domestic industries, because it will boost imports of finished goods. According to Demidova et al. (2012), exporters can choose not to employ preferential access so the importers in the destination country must pay MFN duties. If the expense of complying the ROO exceeds the benefits of the preferred margin, they will choose to pay the MFN duty in exports. However, if the exporting country is reliant on non-FTA member countries for raw materials, it can create trade barriers that impede the flow of goods traffic in the framework of international trade and contradict the purpose of ROO, which is to create trade creation and trade diversion.

A number of studies have been conducted to investigate the impact of ROO on a country's total exports as well as its impact on the utilization of trade agreements between countries. Based on these studies, the findings show if the ROO influenced both exports and FTA utilization. According to Gocklas and Sulasmiyati (2017), the implementation of IJEPA had a notable impact on the exports of both Indonesia and Japan when compared to the period prior to the agreement's implementation. This is consistent with the findings of Thangavelu et al. (2021), Tanaka & Fukunishi (2022), Hayakawa & Laksanapanyakul (2017), Conconi et al., (2017), and Darsono et al. (2015), who discovered that ROO had a beneficial influence on exports and FTA utilization. In contrast to these research, Lee (2016), Cadot & Ing (2014), and Okabe (2015) discovered that ROO has a favorable effect on exports and FTA use, while Okabe (2015) discovered that restricted ROO has a negative effect, which can impede the influence of trade

creation and trade diversion. Furthermore, Okabe (2015) claimed that the use of FTAs in ASEAN has not been optimal in terms of promoting trade performance between ASEAN countries.

Moreover, the harmonization of ROO among FTA plays a significant role in reducing costs associated with the complex network of overlapping trade agreements, commonly referred to as the "Spaghetti Bowl" phenomenon. The implementation of restrictive ROO is expected to drive a negative impact on the utilization rates of AKFTA and ACFTA, and conversely, the relaxation of ROO is anticipated to increase their utilization rates. According to Hayakawa and Laksanapanyakul (2017), According to Hayakawa (2022), the relaxation of ROO typically leads to trade creation and has the potential to enhance Japan's overall imports from Cambodia and Myanmar. According to the findings of Cadot and Ing (2014), the implementation of a restrictive level of ROO within ASEAN can result in an average reduction of one-fourth of the preferential tariff margin. In industries characterized by a narrow gap between MFN tariffs and preferential tariffs, such as electronics and capital goods, the influence of restrictive ROO is relatively modest. Conversely, in sectors like textiles, apparel, footwear, and automotive, where the disparity between both tariffs is substantial, the impact of ROO is more pronounced. Lee (2016) demonstrates that the existence of a restrictive ROO can reverse the original goal of the FTA itself, inhibiting the impact of trade creation and trade diversion but not to the extent of "cancellation."

RESEARCH METHOD

Nowadays, countries or groups of countries prefers to negotiate Free Trade Agreement to obtain the preferential tariff facilities which lower than MFN rates. Importers may benefit from preferential tariffs if exporters can prove that the exported goods originated in the exporting country and that the ROO provisions were met. However, if the ROO arrangements are restricted (as evaluated by the ROO Index), exporters will face difficulty in providing the originating goods. Importers in destination countries will pay MFN import duty rates and unable to take advantage of preferential tariffs, which might have an impact on export performance and FTA utilization.

The study focused to examine trade data of the 6 digits HS Code's products between Indonesia and Japan from the years 2012 to 2021 which obtained from the Ministry of Trade, and tariffs data derived from the WTO's Tariff Download Facility. The World Development Indicator Database of the World Bank, as well as international agreement documents, particularly the Tariff Rate Schedule (TRS) and Product Specific Rules (PSR) for each item in HS 6 digits, are the sources of macrodata, which includes Gross Domestic Products (GDP), Foreign Direct Investment (FDI), Logistic Performace Index (LPI), and exchange rates are employed in the model.

The preferences' utilization rate under the IJEPA and AJCEP schemes in year t yields the utilization rate ($Utilization_{it}$) was calculated from the ratio of COO realization for product i in year t to total exports of product i in year t.

$$\text{Utilization}_{it} = \frac{\text{COO Realization}_{it}}{\text{Total Exsport}_{it}} \qquad (1)$$

The level of restrictiveness of ROO is derived from the rules of Product Specific Rules (PSR) in IJEPA and AJCEP reflected by ROO index (ROOI). The easier of complying the PSR means lower of ROO Index, vice versa. The key variable in this study is the Restrictiveness Index ($ROOI_{it}$). The study modifies the ROO Index from Estevadeordal and Samisen (2004), where the restrictiveness index (ROOI) sets the value of 1-7, but to provide a comparison of the value in the year before the implementation of AJCEP, the value of 0 is added in the case of not using the ROO/preference scheme and 8 as Wholly Obtained as follows:

(i) ROOI = 0 if no preference scheme;

(ii) ROOI = 1 if ROOI $\leq$ CI;

(iii) ROOI = 2 if CI < ROOI $\leq$ CS;

(iv) ROOI = 3 if CS < ROOI $\leq$ CS and VC;

(v) ROOI = 4 if CS and VC < ROOI $\leq$ CH;

(vi) ROOI = 5 if CH < ROOI $\leq$ CH and VC;

(vii) ROOI = 6 if CH and VC < ROOI $\leq$ CC;

(viii) ROOI = 7 if CC < ROOI ≤ CC and TECH.

(ix) ROOI = 8 if WO

The variable CI represents a change in tariff classification at either the 8-digit or 10-digit level of the HS. Similarly, CS, CH, and CC represent changes in tariff classification at the 6-digit, 4-digit, and 2-digit levels of the HS, respectively. Value content rules (VC) refer to regulations that determine the minimum amount of value that must be added to a product within a specific country or region. The use of 100% raw materials from the exporting country, with no imported raw material content, is known as WO requirement. Technical criteria (TECH) are standards and specifications that products must meet in terms of their technical aspects. The greater the ROOI value, the more stringent the standards for proving the authenticity of goods, which might make it harder for exporters to meet ROO and take advantage of reduced tariffs.

This study used the Poisson Pseudomaximum Likelihood (PPML) regression method with High-Dimensional Fixed Effects (HDFE). The PPML estimation is frequently employed in gravity models (Artuc, 2013). It allows for the estimation of models with dependent variables that are non-negative, without requiring the determination of data distribution assumptions (Correia et al., 2020). According to Correia et al. (2020), an additional benefit of this approach is the ability to address heteroscedasticity by employing robust standard errors. Furthermore, it can effectively handle the limitations associated with logarithmic models that involve a substantial number of zero values in the dependent variable. Moreover, in extensive panel datasets, the PPML model is constructed while accounting for the necessity of managing heteroscedasticity sources through the implementation of HDFE.

In order to examine the impact of the restrictiveness level of ROO on Indonesian exports to Japan, this study incorporates the ROO restrictiveness index variable, as discussed in the research conducted by Estevadeordal and Souminen (2004). This study also makes reference to the model proposed by Conconi et al. (2017), which examines the impact of ROO and Applied Tariffs on trade flows. This study employs an empirical model to make estimations:

$$Total\ Export_{it} = \beta_0 + \beta_1(ROOI_{it}) + \beta_2(Applied\ Tariff_{it}) + \beta_3\ ln(GDPID_t) + \beta_4\ ln(GDPJP_t) + \beta_5\ ln(FDIID_t) + \beta_6\ ln(EXCR_t) + \beta_7\ ln(LPIID_t) + \beta_8\ ln(LPIJP_t) + \varepsilon_{it} \quad (2)$$

The variable "i" represents the particular product of HS 6-digit code derived from the Indonesian Harmonized Tariff Nomenclature (Buku Tarif Kepabeanan Indonesia – BTKI) year 2017, while the variable "t" denotes the year within the range of 2012 to 2021. The dependent variable, Total $Export_{it}$, represents the total amount of Indonesian products exported to Japan in a given year (t), measured in USD and categorized according to the HS 6-digit code. ROOI is a variable of interest that is given a value between 0 and 8 to reflex the level of ROO restriction (which is calculated from disaggregation at the HS 6-digit code level). The higher the ROOI value, the higher the restriction level, and vice versa.

The Applied $Tariff_{it}$ is employed as a control variable which represents the tariff applied to HS 6-digit products in the non-preference scheme from 2012 to 2021, as well as IJEPA and AJCEP. Additionally, the natural logarithm of Indonesia and Japan's GDP, Indonesia's FDI, the currency exchange rate (RER) between the Rupiah and the Yen, and the LPI of Indonesia and Japan are also considered as control variables. As a robustness test, this study will be estimated by adding all control variables except Applied Tariff one by one to confirm that the model is robust.

The second model is applied to examine the impact of the restrictiveness level of ROO on the utilization of preference scheme facilities for export products. This analysis is based on the modification of previous research conducted by Hayakawa and Laksanapanyakul (2017), which considered the influence of tariff margins and ROO on the utilization rate. The empirical model used in this study is structured as follows:

$$Utilisasi_{it} = \alpha_0 + \alpha_1(ROOI_{it}) + \alpha_2\ (MarginTariff_{it}) + \alpha_3\ ln(GDPID_t) + \alpha_4\ ln(GDPJP_t) + \alpha_5\ ln(FDIID_t) + \alpha_6\ ln(EXCR_t) + \alpha_7\ ln(LPIID_t) + \alpha_8\ ln(LPIJP_t) + u_{it} \quad (3)$$

Table 1. Utilization of Preference Utilization of IJEPA and AJCEP Schemes in 2012 - 2021 (USD)

Year	Total Export	Total Value IJEPA	Utilization	Total Value of AJCEP	Utilization	Total Value all scheme	Utilization
2012	30.135.107.000	9.514.518.850	32%			9.514.518.850	32%
2013	27.086.259.000	10.953.808.770	40%			10.953.808.770	40%
2014	23.127.089.000	9.920.967.749	43%			9.920.967.749	43%
2015	18.014.347.000	8.385.877.384	47%			8.385.877.384	47%
2016	16.101.547.000	6.647.286.883	41%			6.647.286.883	41%
2017	17.790.812.000	7.721.787.803	43%			7.721.787.803	43%
2018	19.479.892.000	7.288.226.968	37%	755.636.182	4%	8.043.863.150	41%
2019	16.003.261.000	5.947.650.096	37%	868.550.469	5%	6.816.200.565	43%
2020	13.662.871.000	4.956.096.140	36%	783.061.415	6%	5.739.157.555	42%
2021	17.736.773.000	7.494.885.587	42%	897.659.380	5%	8.392.544.967	47%
2022	24.845.365.026	7.843.301.200	32%	1.126.067.956	4.5%	8.969.369.156	36,5%
TOTAL	199.137.958.000	85.319.020.883	39%	4.248.370.460	5%	89.567.391.343	45%

This research focuses on the influence of ROOI, as interest variables, might affect the utilization of the IJEPA and AJCEP FTAs. As is well known, utilization is employed here to determine how much of the IJEPA and AJCEP FTAs adopted by Indonesia and Japan are utilised, where export realization does not totally use preferential facilities as a result of the FTA. In other words, the increase in Indonesia's exports to Japan is not inherently correlated with the increased utilization of preference schemes in IJEPA and AJCEP.

Unlike the first model, the tariff margin, which is the difference between the MFN tariff and the preferential tariff in the FTA, is an independent variable in this model that is also a control variable. This variable is used to emphasize that the use of FTAs is not sufficient to observe the tariff rate alone, but the amount of tariff margin has a significant impact on the exporter's decision to utilize COO and comply with ROO standards.

RESULT AND DISCUSSION

The utilization of IJEPA and AJCEP by Indonesia in its exports to Japan is figured in Table 1. The average utilization's rate of IJEPA from 2012 to 2022 stood at 39%. On the other side, the utilization rate of AJCEP from 2018 to 2022 was recorded at 5%. From the table, it can be inferred if there is a probability shifting of Indonesian exporters to switch from IJEPA to AJCEP aside of decreasing of economy affected by Global Economy Crisis. Under AJCEP, exporters or manufactures can employ cumulation provisions which do not exist in the bilateral trade agreement scheme, alike IJEPA. This cumulation provision allows a country to sourcing materials from another FTA members to be processed or blended to its own materials as an originating material.

Table 2 reflects the picture of the PSR for the IJEPA and AJCEP which are relatively liberals. It is inferred bythe ratio of the lower index group (1-4) is larger than the high index group (5-8). The degree of liberalization within the IJEPA scheme surpasses the AJCEP that indicated bilateral engagement is more liberal compared the regional one since it required willingness from all Parties.

Table 2. ROO Index in 2021 for IJEPA and AJCEP Schemes

ROO Index	IJEPA	AJCEP	TOTAL
1	0	0	0
2	2.600	44	2.644
3	0	0	0
4	634	3.343	3.977
5	359	308	667
6	1.009	1.017	2.026
7	705	592	1.297
8	0	3	3
Total	5.307	5.307	10.614

Source: Author Calculation (2023)

Since the implementation of IJEPA, there is no further liberalization until nowadays which affected no changing or update in the PSR itself. On the other side, AJCEP, Indonesia has signed it from 2010 and implemented it by 2018. Therefore, from 2012 to 2017, Indonesia did not implement any AJCEP PSR (ROO Index of AJCEP from this period can be classified as "0" or no rules). Another interesting fact is AJCEP has 3 WO rules on its PSR which are textile goods (HS 630900) and used scrap (HS 631000).

To examine the impact of ROO Index on total exports, this study estimates two types of models: The first one is partial model (1.A) which focuses only to explore the impact of the ROOI and applied tariff variables to the total exports. The other one is the complete model (1.B) which estimates the impact of the key variables along with control variables consisting of GDP of exporting and importing countries, exchange rates, FDI inflows to Indonesia, and logistics performance indices in exporting and importing countries on total exports of goods in 6-digit HS codes for IJEPA, AJCEP and non-preference scheme trade.

Table 3 indicates the estimation which the coefficient of the ROO Index variable exhibits a negative sign and statistically significant for both model (1A) and model (1B). The result is consistent to the findings of Cadot and Ing (2014) and Conconi and Santana (2017). It indicates if less liberal ROO during a lower tariff rate regime can stimulate positively on the exportation. It made an easier process for exporters/manufacturer to manufacture originating goods and exporting them to FTA partner nations.

On another side, the coefficient of the applied tariff variable in both models shows a negative and statistically significant value. It implies that an increasing in the applied tariff may drive reduction in a nation's total exports. This fact is consistent with the findings of Conconi and Santana's (2017) research.

Table 4 presents the estimation results by each level of the ROO index. Except for ROO index 6, on each value of ROOI could negatively impact the export. This finding indicates if the presence of PSR regulations tends to discourage the exporters because they in have to fulfill the supplementary administrative obligations imposed on their export activities. However, statistical significance is observed only for indexes 5, 7, and 8. In

Table 3. Estimation Results of the Effect of ROOI on Total Export

Dependent Variable: (Total Export)	Model 1. A	Model 1. B
ROOI	-0.059***	-0.037**
	(0.020)	(0.019)
Applied Tariff	-0.109***	-0.111***
	(0.013)	(0.013)
_cons	15.414***	25.212
	(0.081)	(36.049)
Control Variables	No	Yes
N	155745	155745
pseudo R^2	0.011	0.018

Source: Stata Output Results (2023)

these three indexes, when the level of restriction is high (less liberal), it can be argued that the high restrictiveness on ROO will have a negative influence on totalexports.

suggests that an increasing in the index, indicating by the more stringent PSR rules within a free trade agreement, correlates to a reduction in the utilization rate.

Furthermore, a positive value on the tariff margin coefficient implies that

Table 4. Estimation Results of the Effect of ROOI in Categories on Total Exports

Dependent Variable: Total Export	Model_1C	Model_1D
2.ROOI	0.000	0.000
	(.)	(.)
4.ROOI	-0.273	-0.157
	(0.177)	(0.155)
5.ROOI	-0.309*	-0.269
	(0.188)	(0.181)
6.ROOI	0.191	0.244
	(0.196)	(0.191)
7.ROOI	-0.609***	-0.565***
	(0.149)	(0.141)
8.ROOI	-4.656***	-4.485***
	(0.586)	(0.584)
AppliedTariff	-0.047***	-0.049***
	(0.013)	(0.014)
_cons	15.240***	28.135
	(0.141)	(49.258)
Control Variables	No	Yes
N	73143	73143
pseudo R2	0.008	0.014

Source: Stata Output Results (2023)

Table 5. Estimation Results of the Effect of ROOI on Utilization

Dependent Variable: (Utilization Rate)	Model 2. A	Model 2. B
ROOI	-0.163***	-0.162***
	(0.040)	(0.040)
MARGINTARIF	0.082***	0.087***
	(0.012)	(0.012)
_cons	4.449***	-3.825
	(0.203)	(4.872)
Control Variables	No	Yes
N	28321	28321
pseudo R^2	0.591	0.591

Source: Stata Output Results (2023)

Robust standard error and fixed effects method is applied on HS and preference schemes. The result reveals that the coefficient of the ROO Index shows a negative correlation (table 5). This

the utilization rate for preference schemes will increase as the increasing on the gap between the applied tariff and the applicable MFN tariff increases (margin tariff). Exporters often employ preference schemes as a means to mitigate the

financial burden associated with tariffs and subsequently suppress the export expenses. The results are consistent with the research conducted by Hayakawa (2022), Hayakawa and Laksanapanyakul (2015), and Trangavelu et al. (2021).

Table 6 displays the estimation results for the effect of ROOI on the utilization rate for each of index value. In the process of estimation, the fixed effect within the system leads to the exclusion of various samples. Furthermore, due to collinearity, one variable in ROOI is removed from the estimation, namely ROOI = 8. The variables of ROOI 4, ROOI 6, and ROOI 7 have a negative sign which indicating that at that index level, the effect reduces usage by the value of the respective coefficient compared to the condition without the ROO index. ROOI 4 and ROOI 7 have statistical significance, however ROOI 6 does not. In contrast to the others, the coefficient of ROOI 5 is positive but not significant.

Table 6. Estimation Results of the Effect of ROOI in Categories on Utilization

Dependent Variable: Utilization Rate	Model_2C	Model_2D
2.ROOI	0.000	0.000
	(.)	(.)
4.ROOI	-0.713***	-0.712***
	(0.173)	(0.173)
5.ROOI	0.275	0.283
	(0.267)	(0.268)
6.ROOI	-0.145	-0.146
	(0.240)	(0.240)
7.ROOI	-0.711**	-0.704**
	(0.296)	(0.296)
8.ROOI	0.000	0.000
	(.)	(.)
MARGINTARIF	0.079***	0.084***
	(0.012)	(0.012)
_cons	3.937***	-4.361
	(0.173)	(4.868)
Control Variables	No	Yes
N	28313	28313
pseudo R^2	0.591	0.592

Source: Stata Output Results (2023)

To ensure the accuracy of the estimation results in this study, a robustness check is performed on each empirical model by adding control variables one by one, namely GDPID, GDPJP, FDIID, RER, LPIID, and LPIJP, it can be seen the consistency of signs and significance in the variable of interest in both export model (ROOI and Applied Tariff) and the utilization model (ROOI and Margin Tariff).

CONCLUSIONS AND RECOMMENDATIONS

Any discussion of FTAs, it focuses solely on the extent of trade liberalization, such as the elimination or decrease of tariffs or trade barriers that exist between countries. Less business or public put an attention to the ROO in relation to FTAs, despite the fact that it plays a critical part in every trade agreement.

This rule consists of many complexities of requirements relating to the satisfying and verification of origin of commodities in order to gain the benefit from the FTA (claim of preferential tariff) that has been agreed upon between countries. Even during its negotiation, it takes the longest and is the most complicated process.

This study measures that the ROO arrangements in IJEPA and AJCEP which implementable enough to affect Indonesia's exports to Japan as well as its utilization for both trade agreements by measuring the level of ROO restrictions

using the ROO restrictiveness index based on HS 6-digits with 9 index levels. Empirical testing on both models revealed that ROO has a negative influence on both total exports and utilization. The existence of ROO, particularly with less liberal's rules, might be seen as reducing the incentive to export due to the additional administrative obligations that exporters must meet while exporting.

If Exporters can assure the ROO arrangements, then importers in importing country can claim the preferential tariff and receive a sum of tariff margins on imported goods. Therefore, the implementation of ROO can enhance the export and utilization of FTA in countries engaged in exporting activities. If the ROO is hard to be satisfied due to its complicated and restrictiveness, it will indirectly reduce the realization of exports using the preferential scheme, even though the trade is still can be conducted while the importers can still import using MFN tariffs. Consequently, importers will not receive tariff reductions in the form of tariff margins as incentives.

Exporters can choose preference facilities under two schemes (IJEPA and AJCEP) for a good they want to manufacture or export which they can easier to be fulfilled. However, if the manufacture is hardly dependent to the importer raw material from intra ASEAN, they tend to use AJCEP scheme even though they need to satisfy the more restrictive PSR since it offers another feature which is not offered in the bilateral scheme, which is cumulation. This cumulation is sourcing materials from intra Parties FTA in order to manufacture a goods which will be sold to another Party's market.

A country must recognize its domestic sector in the mean to maximize the existing ROO rules to promote its domestic industry. Aside of to obtain the preferential tariff during export, ROO has another function which is a free trade agreement protection mechanism for domestic industry. Nonetheless, the negotiation process in concluding a set of ROOs is influence on the political elementand and the domestic demand for the certain goods (consumer's view) which often has different purpose to the domestic industry's need. Moreover, according to Duttagupta (2000) and Duttagupta & Pagaryia (2002) as cited in Cadot et al (2005), it has been argued that the implementation of international agreements is influenced not only by preferential tariff agreements, but also by rules of origin (ROO) arrangements.

From a policy standpoint, this research can serve as a proposal to the government to develop ROO arrangements that are both facilitative and non-restrictive, particularly for goods which has both export advantages and also limited supply of raw materials from other countries. Regulator should put a concern to the country's high advantages products but its utilization is remained low reflected by lesser issued of COO. In response, the government should conduct a review of ROO agreements that have not been fully utilized by Indonesian exporters. This study is expected to add to the academic literature on ROO in Indonesia, particularly on economic relations between Indonesia and Japan. Finally, from a managerial standpoint, the effect of a facilitative ROO will directly contribute to increasing exports and utilizing the trade agreement between Indonesia and Japan.

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