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Analysis of the Effect of Indonesia-Japan Economic Partnership Agreement (IJEPA) on the Trade in Service Sector in Indonesia

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ABSTRACT

The Economic Partnership Agreement (EPA) is a trade agreement that aims to facilitate market access and considers aspects of economic cooperation and development initiatives between the two countries. The trade agreement between Indonesia and Japan is Indonesia's first bilateral trade agreement covering trade in goods, services, and investment, and entered into force in 2008. The development of the service sector is an important factor in supporting economic growth. This study uses panel data regression with the estimation method used by the gravity model with Difference in Difference (DiD) to see the impact of the IJEPA. The study results show that the interest variable is not significant to the dependent variable, illustrating that the existence of the IJEPA agreement is statistically unable to explain the relationship that occurs with the value of exports and imports of the Indonesian service sector. Implementing IJEPA in Indonesia still does not have an impact and has not provided benefits, especially for service trade.

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INTRODUCTION

Economic liberalization has been carried out by many countries in the current era of globalization. Starting from the establishment of the World Trade Organization (WTO) as a multilateral trade forum to regional and bilateral trade forums. Currently, Indonesia has built several negotiation diplomacy strategies by implementing its trade policies through free trade agreement commitments, both bilaterally and through regional and multilateral agreements.

Trade in services is inclusive of these negotiations. In the multilateral forum at the World Trade Organization (WTO), discussion on trade in services was started in 1994 and resulted in an agreement document called the General Agreement on Trade in Services (GATS). Each member country of the WTO provides liberalization for several service sectors that are committed. The impact of liberalization in the service sector on output growth differs from liberalization in the trade of goods [1]. It is conveyed that the presence of openness or liberalization in the service sector will affect long-term growth performance. Trade liberalization policies would enhance market openness for goods and services, leading to positive contributions to economic growth and job creation [2]. By reducing limitations and barriers to foreign direct investment in the services sector, namely, it will increase the need for highly skilled labor.

One such agreement is the Indonesia-Japan Economic Partnership Agreement (IJEPA), the first bilateral trade agreement agreed by Indonesia. This deal positions Indonesia as an equal participant in the Japanese market, particularly among nations that have already established trade agreements or cooperative arrangements with Japan. The trade agreement has the potential to provide economic advantages through facilitating unrestricted access to goods and services, as well as by enhancing investment value [3]. Trade has a significant role in facilitating economic growth for a country, as indicated by its participation in international trade through export and import activities [4]. The IJEPA agreement was officially ratified by the chiefs of state of Indonesia and Japan on August 20, 2007. Subsequently, the agreement came into force on July 1, 2008. One of the primary provisions within the IJEPA Agreement covers several kinds of issues, including a specific commitment related to Trade in Services.

The study of the growth of the service sector is an interesting issue of research that deserves further research, particularly with respect to the implementation of agreements. The present valuation of trade in services accounts for approximately 20 percent of the overall global commerce [5], [6], [7]. Furthermore, it has been noted that a significant proportion, exceeding 50 percent, of the global labor force is engaged in the services sector.

In the framework of economic developments in Indonesia, the services sector is widely recognized as an increasingly significant component. The services sector constituted 53 percent of Indonesia's overall Gross Domestic Product (GDP) in 2021. Its value has a much higher magnitude in comparison to other business sectors that contribute to the Gross Domestic Product (GDP), as illustrated in Figure 1.

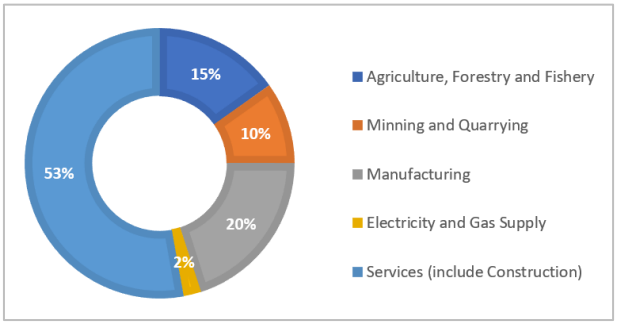

Figure 1. Contribution of Services Sector to Gross Domestic Product in 2021
Source: Statistics Indonesia, 2023

Despite the growing importance of trade in services in Indonesia, Gap in the literature remains. International trade in goods and its relationship with trade agreements has been widely studied. However, the literature regarding trade in services picks up quite later, partially amid data availability [1], [2], [24], [26]. As the importance of services is increasing along with deep trade agreement trend [8], filling this gap is even more urgent.

Research on IJEPA is far from scarce given the agreement has been implemented for quite some time, despite mostly are on trade in goods and manufacturing sectors [10], [14], [15], [21], [22]. While the method principle can be adopted [18], trade in services is very different by nature since the mode of delivery varies, therefore warrant separate discussions.

There is some research on trade in services. However, they are mostly qualitative [13], [3] or focused on Japan [3], [5]. For example, there is a discussion on the concern of Indonesia's services sector competitiveness under the changing nature of globalization toward services trade, assessed qualitatively and descriptively [13]. The impact of Japan is investigated, albeit using literature overview, descriptive and focuses on mode 3 of trade [3].

Despite advancement in some empirical techniques [1], [18], empirical investigation on the IJEPA impact on Indonesia's services trade is, to the knowledge of authors, scant. This is where the paper can contribute to literature.

This provides an analysis of the possible impact of IJEPA on trade in services between Indonesia and Japan. IJEPA features provision on trade in services, something other Indonesian trade agreement lack. Difference in Difference (DiD) technique in the style of gravity equation is applied to Indonesian service trade data spanning from 2005 to 2021. The agreement's enforcement year on services in 2008 act as the treatment which affect only Japan, with other countries serve as controls. We also utilize the variability of the Services Trade Restrictiveness Index (STRI), the Schedule of Commitment (SoC) Index variables as trade cost. We find very little support for IJEPA in increasing Indonesia's trade in services with Japan.

There are reasons to argue why this is the case. Trade agreements are more often concentrating around tariff elimination, something which benefits services trade

very little. Trade in services requires streamlining barriers often traditionally rest outside of Ministry of Trade, the main negotiator in Indonesian trade agreements. Since most of Indonesia's future deep trade agreements involve trade in services as well, the government should focus on these barriers as well so trade agreements can be utilized more. The organization of the paper is as follows. We first discuss the state of Indonesian trade in services, especially with Japan. We then explain our methodology and data. Results and discussion follow it and we end with a conclusion.

The State of Indonesian Trade in Services

Service trade with Japan deserves special attention. According to the Organization of Economic Co-operation and Development (OECD), Japan emerged as one of the top five export destinations for Indonesia in terms of the value of its service sector exports to partner countries during the period 2019 [9] as illustrated in figure 2. In 2019, Singapore, China, Australia, Japan, and United States were the top five exporting countries of the Indonesian services sector.

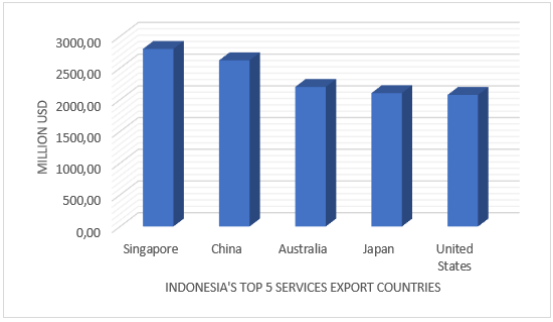

Figure 2. Indonesia's Top 5 Services Export Countries in 2019 (Million USD)
Source: OECD Statistics (2023)

In relation to the value of service sector imports in Indonesia, it is relevant that Japan is among the top five countries in terms of importing services to Indonesia, as illustrated in figure 3. In 2019, Singapore, United States, Japan, China, and Malaysia were the top five importing countries of the Indonesian services sector.

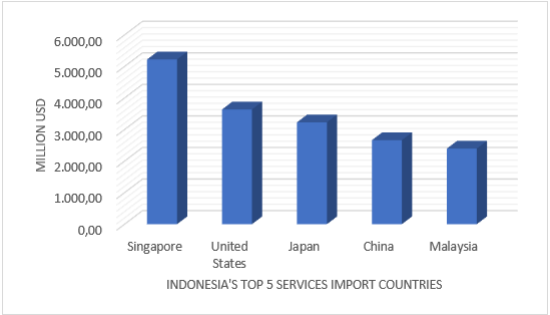

Figure 3. Indonesia's Top 5 Services Import Countries in 2019 (Million USD)
Source: OECD Statistics (2023)

More importantly, Japan is the first country to have settled a trade agreement in services with Indonesia, established under the bilateral framework of the IJEPA This agreement was implemented in 2008. The IJEPA agreement is structured on three fundamental pillars that form the foundation for the implementation of

economic cooperation between the two countries. These pillars are: (i) Trade Liberalization; (ii) Trade Facilitation; and (iii) Capacity Building refers to the process through which the Japanese Government facilitates the transfer of technology and knowledge [10]. Furthermore, Japan is perceived as displaying assertiveness in its pursuit of a free trade agreement (FTA) with two primary aims: safeguarding a stable provision of resources for its economy and countering the geopolitical influence of China [11].

The significance of the service industry on a worldwide scale is apparent due to its heightened contribution to output, labor, and trade value. The service industry contributes to 68 percent of the global output and employs 39 percent of the global labor force [12]. Additionally, commerce in the services sector constitutes 20 percent of the whole global trade. The service sector is widely acknowledged as a catalyst for growth in several industries, since it has the potential to enhance the value-added component of final products originating from other sectors. There are three primary factors that contribute to productivity growth in the service sector [13]. These factors include the regulations that are relevant to services, the quality of the national infrastructure, and the availability of human resources.

On a research, conducted an assessment of the utilization of the Indonesia-Japan Economic Partnership Agreement (IJEPA) in relation to the bilateral agreement [14]. This study reveals a decline in the usage of the Indonesia-Japan Economic Partnership Agreement (IJEPA) for exports during the period of 2012-2016. Based on the findings of the study, it can be asserted that the structure of Preferential Trade Agreements (PTAs) exerts a more favorable influence on the augmentation of Indonesian exports to partner countries compared to comprehensive trade agreements. In a further study, an examination was undertaken to assess the effects of the Indonesia-Japan Economic Partnership Agreement (IJEPA) on the trade value between the two countries [15]. Based on the Event Study approach, the analysis of 101 data samples pertaining to exports and imports of both countries reveals a statistically significant impact of the implementation of the Indonesia-Japan Economic Partnership Agreement (IJEPA) on Indonesia's exports and imports with Japan.

These studies have been conducted to examine the bilateral trade partnership between Indonesia and Japan, with a particular focus on assessing the effects of this cooperation on the development of the goods sector. However, there has been limited research regarding the effects on the services sector. Research on the analysis of the development of the services sector is a compelling area of study that warrants further study, particularly in relation to the implementation of a bilateral agreement between Indonesia and Japan. This paper aims to fill the gap.

RESEARCH METHOD

In order to analyze the development of the service sector under the IJEPA trade agreement in services, this study utilizes time series data spanning from 2005 to 2021. Additionally, cross-sectional data is included, specifically focusing on 12 service sectors categorized according to the 2010 EBOPS classification (BPM6).

The concept of trade in services, as defined by the General Agreement on Trade in Services (GATS), is discussed by the World Trade Organization (1991) [16]. Trade in services can be described as the supply of services traded through four modes of supply:

a) From the territory of one Member into the territory of any other Member (Mode 1);
b) In the territory of one Member to the service consumer of any other Member (Mode 2);
c) By a service supplier of one Member, through commercial presence in the territory of any other Member (Mode 3);
d) By a service supplier of one Member, through presence of natural persons of a Member in the territory of any other Member (Mode 4).

The Services Trade Restrictiveness Index (STRI), developed by the OECD and World Bank, is utilized to calculate the services sector barriers index. The STRI is an indicator with values ranging from 0 to 1. A sector with an index score of zero indicates full openness to international service providers within the country, whereas an index score of one indicates the sector is closed for foreign service providers within the country. The determination of the commitment index, which signifies the extent of liberalization in bilateral agreements related to the services sector, will be derived from the studies [3], [17]. These researchers used the Hoekman Index as a measure to assess the level of openness within the services sector. The Hoekman Index is derived from the provisions related to the service sector in the International Japan-Indonesia Economic Partnership Agreement (IJEPA). These provisions include four modes of service trade (mode 1 to mode 4) and two aspects of liberalization, which are market access (MA) and national treatment (NT).

The initial research model was derived from the study on the application of the Gravity Equation in analyzing international trade in services [18]. This model has been modified to use additional variables, specifically STRI and STRI_IDN, which represent service sector barrier variables. Additionally, the SoC_IDN variables have been included to capture bilateral trade commitments in the service sector. Furthermore, the model uses dummy variables such as IJEPA, JAPAN, and EPA, which are used to describe the implementation of bilateral agreements between Indonesia and Japan. Thus, the formulated model equation is as follows:

$$\begin{aligned} LnEkspor_{ipt} = {} & \beta_0 + \beta_1\, LnGDP\_IDN_t \\ & + \beta_2\, LnGDP_{pt} \\ & + \beta_3\, STRI_{ipt} + \beta_4\, LnDist_p \\ & + \beta_5 SoC_{ipt} + \beta_6 IJEPA_t \\ & + \beta_7 JAPAN_p + \beta_8 EPA_{pt} \\ & + \varepsilon_{ipt} \end{aligned}$$

$$\begin{aligned} LnImpor_{ipt} = {} & \alpha_0 + \alpha_1\, LnGDP\_IDN_t \\ & + \alpha_2\, LnGDP_{pt} \\ & + \alpha_3\, STRI\_IDN_{it} \\ & + \alpha_4\, LnDist_p \\ & + \alpha_5 SoC\_IDN_{ipt} \\ & + \alpha_6 IJEPA_t + \alpha_7 JAPAN_p \\ & + \alpha_8 EPA_{pt} + \varepsilon_{ipt} \end{aligned}$$

where the description of each research variable is described in **Table 1**.

The IJEPA agreement establishes two different categories that are subject to varying treatments. Countries that receive advantages from IJEPA intervention are referred to as treatment groups, while countries that do not get IJEPA intervention are referred to as control groups. Since IJEPA is the only Indonesian trade agreement that explicitly contain provisions in trade in services, it is safe to

assume that only Japan is treated with different services regulation.

Table 1. Description of Research Variables

Variables	Description
$\mathbf{Ekspor_{ipt}}$	Indonesia's Export Value for sector service i partner country p in period t
$\mathbf{Impor_{ipt}}$	Indonesia's Export Value for sector service i partner country p in period t
$\mathbf{GDP\_IDN_{t}}$	Indonesia's GDP in period t
$\mathbf{GDP_{pt}}$	GDP partner country p in period t
$\mathbf{STRI_{ipt}}$	Services Trade Restrictiveness Index for service sector i partner country p in period t
$\mathbf{STRI\_IDN_{it}}$	Indonesia's Services Trade Restrictiveness Index for service sector i in period t
$\mathbf{Dist_{p}}$	Distance between Indonesia and partner country p
$\mathbf{SoC_{ipt}}$	Commitments Index of service sector i partner country p in period t
$\mathbf{SoC\_IDN_{it}}$	Indonesian Commitment Index for service sector i in period t
$\mathbf{IJEPA_{t}}$	Dummy variable of IJEPA implementation in period t (value 0 for 2005-2007 and value 1 for 2008-2021)
$\mathbf{JAPAN_{p}}$	Partner country dummy variable (value 0 for countries other than Japan and value 1 for Japan
$\mathbf{EPA_{pt}}$	Interaction variable between time (IJEPA) and partner group (JAPAN), which is the variable of interest
ε_{ipt}	error term
i	cross section 12 service sectors based on BaTIS category
p.s	Indonesian partner country
t	time series 2005 to 2021

Table 2 shows descriptive statistics of our treatment (which is just Japan) and control group. Trade with Japan is much higher compared to control group, which shows the relative importance of Japan in services trade. We can also see that two of the barrier variables, SoC and STRI, are also relatively higher for Japan compared to the control group. We need a proper approach to show that IJEPA causes this higher trade and lower barrier.

The most suitable approach to analyzing the impact of the Indonesia-Japan Economic Partnership Agreement (IJEPA) on Indonesia's service sector is the Difference in Difference (DID) method, given the availability of pre- and post-IJEPA data. The DID method is often used for an analysis of the impact of a particular policy or treatment. The difference-in-differences (DID) method quantifies the disparity in the changes in the dependent variable's value between the treatment group and the control group over a specific time frame. Therefore, it is possible to determine the impact of a treatment on an analyzed dependent variable. Gertler et al. (2011) asserts that the Difference-in-Differences (DiD) method is a highly effective approach for evaluating impacts, since it has the capacity to control for the effects of unobservable factors that remain constant over time by incorporating pre- and post-treatment periods [19].

Table 2. Descriptive Statistics for Japan and Control Countries

Variable		Japan	Control
Exports (Million USD)	Mean	145.7871	48.44241
	Std.dev.	221.9998	145.5197
Imports (Million USD)	Mean	197.7831	71.09937
	Std.dev.	240.748	169.6134
GDP (Million USD)	Mean	5135561	2157908
	Std.dev.	501380.3	3829486
GDP_IDN (Million USD)	Mean	806837.7	806837.7
	Std.dev.	269618.5	268984.3
STRI	Mean	0.2905441	0.4753583
	Std.dev.	0.3213575	0.3605697
STRI_IDN	Mean	0.5050245	0.5050245
	Std.dev.	0.2409906	0.2404238
SoC	Mean	0.5929069	0
	Std.dev.	0.2917075	0
SoC_IDN	Mean	0.1706765	0.2823333
	Std.dev.	0.1604815	0.2185837
Distance (kilometers)	Mean	5791.627	8303.547
	Std.dev.	0	4739.919
JAPAN	Mean	1	0
	Std.dev.	0	0
IJEPA	Mean	0.8235294	0.8235294
	Std.dev.	0.3821579	0.381259
EPA	Mean	0.8235294	0
	Std.dev.	0.3821579	0

Source: Author's calculations

The study compares the treatment group, which comprises Japan as a partner country in the IJEPA agreement, with the control group, which consists of other partner countries of Indonesia except Japan. The JAPAN dummy variable is used as a dummy indicator for partner countries, with a value of 1 given to Japan and a value of 0 given to countries other than Japan. The control group consists of 24 Indonesian partner countries that exhibit strong services export values. These countries are Australia, Canada, Denmark, France, Germany, Ireland, Italy, Korea, the Netherlands, Spain, Switzerland, the United Kingdom, the United States, Brazil, China (People's Republic of), Hong Kong, India, Malaysia, the Philippines, Saudi Arabia, Singapore, Thailand, the United Arab Emirates, and Viet Nam.

Regarding the temporal framework, the interval spanning from 2005 to 2007 is designated as the period preceding the implementation of the IJEPA provides a value of 0, while the period from 2008 to 2021 is defined as the period after the entry of IJEPA is provides a value of 1. Meaning, β_6 and α_6 differences for export and import respectively between pre and post IJEPA implementation. Meanwhile, both β_7 and α_7 shows the difference between Japan and control groups for export and import respectively.

The interaction between the IJEPA and JAPAN variables is formed into an interaction variable (EPA) that will show the impact of IJEPA on trade in services sector in Indonesia, where this variable is the variable of interest in the study. This interaction shows the difference for Japan

(relative to control countries) between different time, pre and post IJEPA year, hence the DiD. Since the "Japan effect" and "event effect" will be absorbed by IJEPA and JAPAN variable, EPA will capture the effect from exclusively from the agreement.

The main hypothesis of this research is that the Indonesia-Japan Economic Partnership Agreement (IJEPA) will have a positive impact on the trade value within the services sector in Indonesia. That is, we expect β_8 and α_8 to be positive and statistically significant. Estimation is conducted using Stata.

For each regression, we conduct 3 different specifications. Spec 1 is our DiD specification, which uses dummy IJEPA, dummy JAPAN and dummy EPA. In Spec 2, we test a more continuous variable, Schedule of Commitment Indonesia (SoC_IDN) to describe the commitment of the Indonesian service sector in international trade. Since this variable varies with IJEPA implementation, this variable serves as an alternative measure of IJEPA. Lastly, Spec 3 combines Spec 1 and Spec 2, which includes all DiD variables (IJEPA, JAPAN, EPA) and the Indonesian commitment variable (SoC_IDN), which serves as a robustness check.

For Spec 1, a regression analysis was performed using four experiments:
(1) Fixed Effect with dummy characteristic control of Partner Countries (i.Partner), (2) Fixed Effect with dummy characteristic control of Sectors (i.Sectors), (3) Fixed Effects, and (4) Random Effects. The results indicate that among the four experiments conducted in Spec 1 to analyze service sector export, it may be argued that, statistically, the EPA variable shows a relatively less effective ability to explain its correlation with the Exports variable when used as the dependent variable. This implies that the presence of the IJEPA agreement does not have an obvious impact on Indonesia's service sector export. Spec 2 and 3, however, can only be conducted with import data. This is because we only have information on Indonesia's SoC with Japan and control groups.

The IJEPA agreement has contributed to a commitment in service trade between Indonesia and Japan, as stated in the Schedule of Commitment (SoC) document. In this study, SoC is compiled into an index to assess the level of openness within the service sector. The IJEPA agreement includes the SoC index for both Japan and Indonesia. The estimation of SoC for Indonesia's service sector exports is not included in this study due to the lack of available SoC data for the other 24 countries. The estimation of the SOC_IDN variable will be conducted using Indonesia's SoC index data. Specifically, we use Specification 2 (Spec 2) and estimate the variable based on the value of Indonesia's service sector imports using the following function:

$$Imports_{ipt} = f(GDP\_IDN_t, GDP_{pt}, STRI\_IDN_{ipt}, Dist_p, SoC\_IDN_{it})$$

In Spec 2, the estimation of the SoC_IDN is conducted without considering the addition of the dummy variables IJEPA, JAPAN, and EPA. This study aims to analyze the impact of the SoC on the import value of Indonesia's service sector while excluding the addition of a dummy variable that represents the presence of the IJEPA. Furthermore, in relation to Specification 3 (Spec 3), the combination of the independent variables found in Spec 1 and

Spec 2 will result in the following function for Spec 3:

$$Imports_{ipt} = f(GDP\_IDN_t, GDP_{pt}, STRI\_IDN_{ipt}, Dist_p, SoC\_IDN_t, IJEPA_t, JAPAN_p, EPA_{pt})$$

In Spec 2 and Spec 3 for imports, a regression analysis was also performed using four experiments: (1) Fixed Effect with dummy characteristic control of Partner Countries (i.Partner), (2) Fixed Effect with dummy characteristic control of Sectors (i.Sectors), (3) Fixed Effects, and (4) Random Effects. The next section starts with a brief examination of the Indonesian export and import services trend. We then proceed with the estimation and discussion.

RESULT AND DISCUSSION

Trade in Services between Indonesia and Japan

In the year 2021, the proportion of Indonesia's service sector exports to Japan constituted 7.12 percent of Indonesia's overall service sector exports to the global market. In comparison to Indonesia's overall service sector imports from around the world, the proportion of service sector imports from Japan accounted for 8.04 percent. The bilateral trade relationship between Indonesia and Japan shows annual fluctuations.

Figure 4. Indonesian Services Export Value with Japan and the World
Source: OECD Statistics (2023), by the author

As illustrated in Figure 4, the graph illustrates the fluctuations in the value of exports within the Indonesian service sector. Prior to the IJEPA agreement, the Indonesian service sector exports to Japan showed a linear trend compared to the typical growth of Indonesia's services sector exports worldwide.

For the value of imports, Figure 5 illustrated the fluctuation in the value of imports within the Indonesian service sector. Japan is one of Indonesia's trading partners in the services sector. Indonesian service sector imports from Japan, as the treatment group, show a linear trend compared to the average growth of Indonesia's service sector imports from the world, the control group.

Figure 5. Indonesian Services Import Value with Japan and the World
Source: OECD Statistics (2023), by the author

The adoption of the IJEPA agreement in 2008 did not consistently result in an upward trend in Indonesia's service sector exports and imports, as depicted in Figure 4-7. Moreover, it is noteworthy to mention that in the year 2020, there was a discernible decrease observed in the rates of export and import expansion, both inside the country of Japan and on a global level. The decrease in economic activity can be attributed to the COVID-19 epidemic, which has led to a reduction in both international and domestic demand. Moreover, many countries have implemented lockdown measures as a means to mitigate the transmission of COVID-19, resulting in disruptions to the global industrial chain, substantial declines in demand, decreased investment, and impediments to export-import trade.

The categorization of service sectors in this study is derived from the Extended Balance of Payments Services (EBOPS) 2010 (BPM6) classification. According to the OECD-WTO Balanced Trade in Services (BaTIS) data for the year 2019, it was seen that Indonesia primarily exported three service sectors to Japan. These sectors were Construction, Travel, and other business services. In aggregate, these three sectors constituted 89.02 percent of Indonesia's total exports to Japan (Figure 6).

Moreover, during the same year, Indonesia's most significant service sector imports from Japan consisted of the Construction, Charges for the use of intellectual property n.i.e., and Transport sectors. These three sectors collectively accounted for 68.75 percent of Indonesia's service sector imports from Japan, as illustrated in Figure 6. The construction sector holds the distinction of being the primary service sector in terms of both export and import value in the bilateral trade relationship between Indonesia and Japan. This is mostly due to the significant number of infrastructure projects and construction-related works undertaken by both countries.

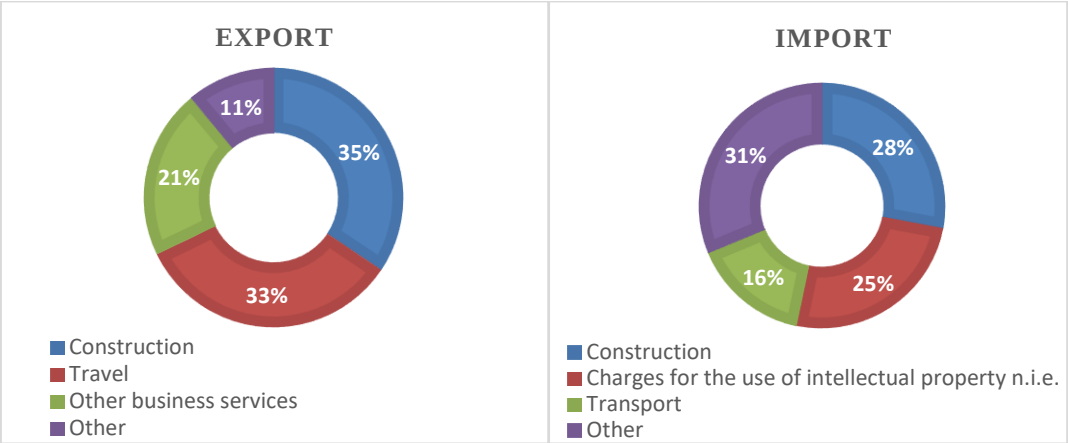

Figure 6. Top 3 Indonesia-Japan Services Sector Export and Import in 2019
Source: OECD Statistics (2023), by the author

Estimation Result

The estimation results for each equation are obtained based on the regression performed on the export equation and import equation. **Table 3** presents the estimation results for the export value of trade in services using Specification 1.

Table 3. Estimation Results of Export Value with Specifications 1

Spec 1	i. Partner	i. Sectors	FE	RE
	Ln_Exports	Ln_Exports	Ln_Exports	Ln_Exports
ln_GDP_IDN	0.180*	0.169***	0.180***	0.181***
	(0.108)	(0.0545)	(0.0307)	(0.0303)
ln_GDP	0.520***	0.540***	0.520***	0.517***
	(0.114)	(0.0132)	(0.0325)	(0.0307)
STR	-1,276***	-0.119**	-0.654	-0.790***
	(0.0777)	(0.0496)	(0.794)	(0.238)
ln_Distance	0.714	-0.797***	-	-0.846***
	(0.453)	(0.0192)	-	(0.117)
JAPAN	-0.122	0.281*	-	0.195
	(0.326)	(0.152)	-	(0.456)
IJEPA	0.00918	0.01000	0.00945	0.00935
	(0.0996)	(0.0590)	(0.0283)	(0.0283)
EPA	-0.0412	-0.0380	-0.0431	-0.0435
	(0.281)	(0.165)	(0.0798)	(0.0797)
_cons	-12.51***	-1,981***	-6,928***	0.564
	-3,408	(0.713)	(0.546)	-1,087
N	5100	5100	5100	5100
R^2	0.251	0.736	0.202	0.202
Prob>F	0.000	0.000	0.000	

Standard errors in brackets
* p<.1, ** p<.05, *** p<.01

Source: Author's calculations

Based on the results of the estimation, it can be concluded that several variables, including GDP_IDN, GDP, STRI, and Distance, have a considerable impact on Indonesia's service sector exports. The service sector exports of Indonesia have a positive impact on both the GDP of Indonesia and the GDP of partner countries. This implies that a rise in the value of Indonesia's GDP and the GDP of partner countries would result in an increase in the value of Indonesia's service sector exports. In addition, it can be observed that the STRI variable has a negative impact on the exports of Indonesia's services sector. The Service Trade Restrictiveness Index (STRI) provides a measure of the obstacles encountered in the service sector. A higher STRI value indicates a greater level of restriction within the sector, resulting in a decrease in the export value of Indonesia's service industry. The JAPAN and IJEPA dummy variables indicate a positive but statistically insignificant impact on the value of Indonesia's service sector exports.

Table 4. Estimation Result of Import Value with Specifications 1

Spec 1	i. Partner	i. Sectors	FE	RE
	Ln_Imports	Ln_Imports	Ln_Imports	Ln_Imports
ln_GDP_IDN	0.180	0.0973	0.230***	0.210***
	(0.117)	(0.0695)	(0.0291)	(0.0287)
ln_GDP	0.358***	0.624***	0.362***	0.383***
	(0.123)	(0.0157)	(0.0299)	(0.0287)
STRI_IDN	0.0328	1.475***	1,444***	1.193***
	(0.0933)	(0.523)	(0.188)	(0.171)
ln_Distance	1,859***	-0.674***	-	-0.472***
	(0.487)	(0.0234)	-	(0.127)
JAPAN	0.253	0.0282	-	0.526
	(0.352)	(0.186)	-	(0.503)
IJEPA	0.0307	0.00513	0.00163	0.00713
	(0.107)	(0.0731)	(0.0263)	(0.0263)
EPA	0.0624	0.152	0.0639	0.0708
	(0.303)	(0.202)	(0.0734)	(0.0735)
_cons	-20.43***	-2,858**	-6,104***	-1,883
	-3,669	-1,163	(0.415)	-1,150
N	5100	5100	5100	5100
R^2	0.2477	0.6574	0.1775	0.1772
Prob>F	0.000	0.000	0.000	

Standard errors in brackets
* p<.1, ** p<.05, *** p<.01

Source: Author's calculations

Furthermore, the estimation results for the import value of trade in services are presented in **Table 4**.

Based on the results of the estimation analysis, it can be concluded that several factors, including GDP_IDN, GDP, STRI_IDN, and Distance, have a statistically significant impact on the service sector imports of Indonesia. The service sector imports of Indonesia are positively impacted by the GDP of Indonesia and its

partner countries. This implies that higher values of Indonesia's GDP and its partner countries' GDP would result in an increase in the value of Indonesia's service sector imports. In addition, it can be observed that the STRI_IDN variable has a positive impact on the imports of the services sector in Indonesia. STRI_IDN describes the value of barriers in the Indonesian service sector. The empirical results indicate that restrictions existing in the Indonesian service sector have a positive effect on the value of imports from this sector. Additionally, the presence of the JAPAN and IJEPA dummy variables shows positive but statistically insignificant results when analyzing their impact on Indonesia's service sector imports.

Table 5. Estimation Result of Import Value with Specification 2 and Specification 3

	Ln_Imports							
	Spec 2				Spec 3			
	i. Partner	i. Sectors	FE	RE	i. Partner	i. Sectors	FE	RE
ln_GDP_IDN	0.203**	0.101***	0.231***	0.216***	0.176	0.0970	0.230***	0.210***
	(0.0805)	(0.0388)	(0.0200)	(0.0195)	(0.117)	(0.0695)	(0.0291)	(0.0287)
ln_GDP	0.355***	0.629***	0.361***	0.383***	0.357***	0.624***	0.362***	0.382***
	(0.122)	(0.0150)	(0.0297)	(0.0284)	(0.123)	(0.0157)	(0.0299)	(0.0287)
STRI_IDN	-0.0815	1.474***	1,440***	1.184***	-0.0819	1.469***	1.438***	1.186***
	(0.106)	(0.517)	(0.186)	(0.171)	(0.106)	(0.523)	(0.188)	(0.173)
ln_Distance	1,869***	-0.678***	-	-0.476***	1,860***	-0.674***	-	-0.472***
	(0.484)	(0.0229)	-	(0.126)	(0.487)	(0.0234)	-	(0.127)
SoC_IDN	-0.269**	-0.708*	-0.420	-0.202	-0.269**	-0.439	-0.394	-0.0857
	(0.117)	(0.362)	(0.302)	(0.253)	(0.118)	(0.434)	(0.365)	(0.287)
JAPAN					0.254	0.0282	-	0.526
					(0.352)	(0.186)	-	(0.504)
IJEPA					0.0331	0.00526	0.00174	0.00727
					(0.107)	(0.0731)	(0.0263)	(0.0263)
EPA					0.0259	0.0923	0.0104	0.0591
					(0.303)	(0.211)	(0.0886)	(0.0832)
_cons	-20.64***	-2,918***	-5,998***	-1,846*	-20.25***	-2,846**	-5,988***	-1,851
	-3,478	(0.848)	(0.329)	-1,121	-3,669	-1,163	(0.429)	-1,156
N	5100	5100	5100	5100	5100	5100	5100	5100
R^2	0.2485	0.6573	0.1777	0.1772	0.2485	0.6574	0.1777	0.1772
Prob>F	0.000	0.000	0.000		0.000	0.000	0.000	

Standard errors in brackets
* p<.1, ** p<.05, *** p<.01

Source: Author's calculations

Table 5 illustrates the results obtained from the estimation of the import value related to Indonesia's service sector using Spec 2 and Spec 3. The results show that of the four experiments in Spec 2 and Spec 3 for service sector imports, the SoC_IDN variable shows negative and significant results when estimated using the Partner Country dummy characteristic control. It can be argued that there is a negative correlation between the degree of openness in the service sector, as indicated by Indonesia's SoC Index, and the value of imports in Indonesia's service sector.

Based on the estimation results in Specifications 2 and 3, it is obvious that more variables, including GDP_IDN, GDP, STRI_IDN, and Distance, have a significant impact on the imports of Indonesian services. The service sector imports of Indonesia are positively influenced by both the GDP of Indonesia and the GDP of partner countries. This implies that if the values of Indonesia's GDP and partner countries' GDP increase, the value of Indonesia's service sector imports will also improve. Furthermore, it can be shown that the STRI_IDN variable has a positive impact on the import's services sector in Indonesia. STRI_IDN describes the value of barriers in the Indonesian services sector. The estimation results indicate that the barriers to entry in the Indonesian service sector have a positive effect on the value of imports from that sector. In addition, in the context of Spec 3, the dummy variables JAPAN, dummy IJEPA, and EPA show a positive but insignificant result in explaining their impact on imports for the Indonesian service sector. Consequently, it can be inferred that the presence of the IJEPA agreement has no impact on the value of imports for the Indonesian service sector.

Analysis of Result

EPA Variable

The variable used in the analysis is the EPA interaction variable, which is derived from the combination of the IJEPA dummy variable (representing the period before and after the IJEPA agreement) and the JAPAN dummy variable (representing Japan and non-Japan countries). The EPA variable refers to the implementation of the IJEPA. Based on the results of the estimation, it can be said that the IJEPA agreement doesn't explain much about the relationship between the EPA variable and the export and import values of the Indonesian service sector. The results of the export study indicate a negative relationship with the EPA variable, whereas the import analysis reveals a positive relationship. On analyzing the development of Indonesia's service sector exports to Japan during the intended period, it becomes obvious that a consistently positive ability was not observed following the adoption of the IJEPA. Similarly, the structure of imports in Indonesia's service sector indicated fluctuations over the duration of the research. Nevertheless, there is a significant difference between the trends of Indonesia's service sector imports and exports. Following the implementation of the IJEPA, it can be observed that the average value of imports presented a more significant positive trend compared to the period prior to the implementation of the IJEPA. However, the average value of exports had a smaller growth trend following the implementation of the IJEPA.

The limited participation of Indonesian service providers in the global competition can be attributed to their inability to take advantage of Japan's market access, despite the existing possibility of piercing the Japanese market. Furthermore, a significant problem encountered by the services sector pertains to the insufficient number of human resources who possess the necessary certifications and comply with international quality standards. Despite the unrestricted access to the service market, the insufficiency of human resource capability presents a significant challenge to the facilitation of service trade activities.

The results of this study do not align with the initial hypothesis, which posits that the

presence of the IJEPA agreement can impact the exports and imports in the service sector of Indonesia. Based on the results, it can be asserted that both Indonesia and Japan have not effectively capitalized on the preferential trade opportunities in the services sector provided by the IJEPA agreement. The results about the impact of the IJEPA correlate with previous research analyses [20], [21]. These studies indicate that IJEPA is not having a significant impact on the overall exports and imports between Indonesia and Japan, both in the short and long run. Furthermore, the other studies that indicate that there is no significant impact of the IJEPA on the improvement of Indonesia's non-oil and gas imports from Japan [22].

GDP and GDP_IDN Variables

Gross Domestic Product (GDP) serves as an indicator for explaining the economic condition of a country [23]. It can be argued that the growth of Indonesia's GDP and GDP_IDN is likely to have a favorable influence and correlation with the country's service sector trade. As a country's economy becomes more developed, there is a corresponding growth in the volume of trade within the service sector. The estimation results for exports and imports indicate that the independent variables GDP and GDP_IDN show positive and statistically significant effects. The findings presented here align with the previous research [18], [24].

The economic growth of a country can be driven by international trade. By facilitating international market access, a country can enhance its prospects for exporting its goods and services to diverse worldwide markets. If a country is successful in enhancing its export volume and diminishing its reliance on imports, it will possess the ability to enhance its pace of economic growth. Nevertheless, it is important to note that an increase in the economic value of service imports to Indonesia does not necessarily indicate a negative outcome. The entry of foreign service providers into Indonesia has the potential to enhance the quality of services available in the country, hence potentially strengthening the manufacturing sector's performance and stimulating economic growth in Indonesia. The impact of this trend is expected to extend throughout many industries, given the important function of the services sector in promoting growth and development in other areas.

STRI and STRI_IDN Variables

The regression results reveal that the variables STRI and STRI_IDN show statistically significant correlations with the exports and imports of Indonesia's service sector. Based on the analysis of the export estimation results, it is obvious that the STRI exhibits an inverse correlation with the value of service exports. This implies that an increase in the STRI corresponds to an increase in barriers encountered by the service sector in the destination nation, thereby leading to a decline in Indonesia's service sector exports to that country. The results indicate that there is a positive correlation between STRI_IDN and the imports of the service sector in Indonesia. Specifically, it suggests that as the level of service barriers increases in Indonesia, the value of imports in the service sector also tends to increase. The observed inverse correlation between STRI and trade indicators aligns with the findings of previous studies [24], [25].

This study analyzes the STRI Index value of each partner country (a total of 25 partner

countries) for every service sector. The STRI_IDN Index value represents Indonesia's STRI Index value for each service sector, which remains consistent across partner countries. In order to enhance the service sector, collaborative efforts between the government and business entities can be undertaken to identify and address regulatory barriers in Indonesia that impede the sector's growth while maintaining national priorities. Furthermore, it is imperative to pursue the synchronization of local and central government rules in order to maintain a favorable economic environment in Indonesia. The relaxation of limitations on prioritized services by the government might be considered a potential strategy to encourage the growth and development of Indonesia's service sector.

Distance Variable

The variable "distance" serves as a measure of the trade distance between Indonesia and its partner countries. In this study, trade costs are quantified using kilometers as the unit of measurement for distance. The empirical findings pertaining to the distance variable show statistically significant negative impacts on both exports and imports within the service sector of Indonesia. Based on the estimation results, it can be inferred that there exists a negative correlation between the distance between Indonesia and its partner countries and the corresponding values of exports and imports with these countries. However, the location between Indonesia and a partner country is correlated with the level of service sector trade between the two nations, primarily attributable to reduced trade expenses. The results align with the previous studies [18], [24].

SoC_IDN Variable

This article presents an analysis of the SoC_IDN, which is derived from Indonesia's service sector commitments as outlined in the IJEPA and GATS agreements. SoCs describe the commitment to the service sector as outlined in the agreement documents. Moreover, within the context of this research, the level of commitment is aggregated and represented as an index. The findings of the estimation indicate a statistically significant negative relationship between the SoC_IDN variable and Indonesia's service sector imports. This implies that Indonesia's strong commitment to the IJEPA agreement has the potential to contribute to a decrease in the value of its service sector imports.

The SoC_IDN value in IJEPA only applies to Japan after the coming into force of the IJEPA agreement. The SoC_IDN value for partner nations other than Japan refers to Indonesia's Schedule of Commitments (SoC) under the General Agreement on Trade in Services (GATS), which was established before the Indonesia-Japan Economic Partnership Agreement (IJEPA). The negative correlation observed between the SoC_IDN and the value of service sector imports can be attributed to the prevailing conditions within specific sectors in Japan, resulting in a decline in the value of service sector imports. Furthermore, the emergence of foreign service providers in Indonesia can also be attributed to their entry via domestic regulatory schemes rather than through treaty arrangements. One such scheme is the regulation of the Investment Negative List for the service sector, which exhibits a higher level of liberalization compared to the commitments outlined in the treaty.

CONCLUSION

The regression analysis provided estimation results for the service exports and imports of Indonesia. The EPA variable is an interaction variable between JAPAN and IJEPA which is the variable of interest in this study. Since the EPA variable has an insignificant result, it can be assumed that the presence of the IJEPA does not have significant effects on its relationship with the export value and import value of the Indonesian services sector. Based on the results, it can be inferred that both Indonesia and Japan have not effectively taken advantage of the preferential terms of the IJEPA in areas of trade under the service sector. Based on the analysis of the estimation results, it can be inferred that the EPA variable does not align with the initial hypothesis, which posits that the presence of the IJEPA agreement positively affects the export value and import value of the Indonesian service sector. Enhanced collaboration between the governmental authorities and domestic service sector enterprises is necessary for optimizing the implementation of the IJEPA agreement. This can be achieved by providing guidance and support, thereby augmenting the competitiveness of these enterprises and facilitating their entry into the Japanese market. It is imperative for Indonesia to undertake a comprehensive assessment of the trade prospects between Indonesia and Japan, with particular emphasis on the use of the IJEPA scheme, particularly in the area of service trade. At this point, the Indonesian government is actively endeavoring to enhance its service exports by deploying a proficient workforce to Japan. The expectation is that this collaboration can have a favorable impact on the growth of service exports and the enhancement of workforce capacity in Indonesia. In the future research, regard to Indonesia's existing bilateral trade agreement, it is important to assess the implementation of the current Comprehensive Economic Partnership Agreement (CEPA) by looking at prospective sectors for development. The purpose of the evaluation is to enhance the efficiency of CEPA utilization in promoting the performance of service sector trade and encouraging economic growth in Indonesia.

REFERENCES

[1] A. Mattoo, R. Rathindran, and A. Subramanian, “Measuring Services Trade Liberalization and Its Impact on Economic Growth: An Illustration,” *Journal of Economic Integration*, vol. 21, no. 1, pp. 64–98, 2006.

[2] P. Dee, J. Francois, M. Manchin, H. Norberg, H. K. Nordås, and F. Van Tongeren, “The Impact of Trade Liberalisation on Jobs and Growth Technical Note,” *OECD Trade Policy Working Papers*, no. 107, 2011, doi: 10.1787/5kgj4jfj1nq2-en.

[3] I. Hikari, “Trade in Services and Japan’s Bilateral FTAs: Empirics on their impacts Trade in Services and Japan’s Bilateral FTAs: Empirics on their impacts *,” *RIETI Discussion Paper Series*, pp. 15–27, 2015, [Online]. Available: http://www.rieti.go.jp/en/

[4] M. Martoyo, H. Alunaza, A. Ernianda, A. Putri, and M. A. L. Mosquera Montoya, “Implication of the Covid-19 Pandemic on the Governance of International Trade in the West Kalimantan’s Entikong Border,” *Jurnal Manajemen Industri dan Logistik*, vol. 6, no. 1, pp. 01–09, Jun. 2022, doi: 10.30988/jmil.v6i1.940.

[5] G. P. Corning, "Japan and the Liberalization of Trade in Services," *Asian Surv*, vol. 56, pp. 779–805, 2016, doi: 10.2307/26364385.

[6] K. Briggs and K. M. Sheehan, "Service Trade Liberalization and Economic Growth," *The Journal of Developing Areas*, vol. 53, no. 4, 2019.

[7] M. Roy, "Elevating services: Services trade policy, WTO commitments, and their role in economic development and trade integration," *World Trade Organization*, 2019, doi: 10.30875/9ac21df6-en.

[8] A. A. Patunru, "Survey of Recent Developments: TRADE POLICY IN INDONESIA: BETWEEN AMBIVALENCE, PRAGMATISM AND NATIONALISM," *Bull Indones Econ Stud*, vol. 59, no. 3, pp. 1–30, 2023, doi: 10.1080/00074918.2023.2282821.

[9] Organization of Economic Co-operation and Development (OECD), "OECD Services Trade Restrictiveness Index (STRI) - Indonesia," 2023. [Online]. Available: http://oe.cd/stristri.contact@oecd.org

[10] F. T. Budiarti and F. F. Hastiadi, "Analisis Dampak Indonesia Japan Economic Partnership Agreement terhadap Price-Cost Margins Industri Manufaktur Indonesia," *Jurnal Ekonomi dan Pembangunan Indonesia*, vol. 15, no. 2, pp. 192–209, 2015.

[11] H. Gumilang, K. Mukhopadhyay, and P. J. Thomassin, "Economic and environmental impacts of trade liberalization: The case of Indonesia," *Econ Model*, vol. 28, no. 3, pp. 1030–1041, May 2011, doi: 10.1016/j.econmod.2010.11.015.

[12] M. Z. Chishti and F. Mehmood, "The Dynamic Effects of Innovation, FDI, & Trade Liberalization on Services Sector: An Evidence from Developed and Developing Economies," *Jinnah Business Review*, vol. 8, no. 2, pp. 116–132, 2020, [Online]. Available: http://www.jbrc.pk

[13] C. Findlay and M. Pangestu, "The Services Sector as a Driver of Change: Indonesia's Experience in the ASEAN Context," *Bull Indones Econ Stud*, vol. 52, no. 1, pp. 27–53, Jan. 2016, doi: 10.1080/00074918.2016.1161499.

[14] E. A. Ningsih, T. A. Falianty, and F. T. Budiarti, "Pemanfaatan Kerja Sama Indonesia-Jepang Economic Partnership Agreement (IJEPA) dan Indonesia-Pakistan Preferential Trade Agreement (IPPTA)," *Buletin Ilmiah Litbang Perdagangan*, vol. 12, no. 2, 2018.

[15] L. C. S. Gocklas and S. Sulasmiyati, "Analisis Pengaruh Indonesia-Japan Economic Partnership Agreement (IJEPA) Terhadap Nilai Perdagangan Indonesia-Jepang," *Jurnal Administrasi Bisnis (JAB)|Vol*, vol. 50, no. 5, 2017.

[16] World Trade Organization (WTO), "General Agreement on Trade in Services Text Annex 1B," *WTO Secretariat*, 1991.

[17] H. Ishido, "Liberalization of Trade in Services under ASEAN+n: A Mapping Exercise," *ERIA Discussion Paper Series*, 2011.

[18] F. Kimura and H. H. Lee, "The gravity equation in international trade in services," *Review of World Economics*, vol. 142, no. 1, pp. 92–121, Apr. 2006, doi: 10.1007/s10290-006-0058-8.

[19] Paul. J. Gertler, M. Sebastian, P. Premand, L. B. Rawlings, and C. M. J. Vermeersch, "Impact Evaluation in Practice Second Edition," *The World Bank*, 2011.

[20] I. K. Harahap and A. M. Esther, "Dampak Penerapan Indonesia-Japan Economic Partnership Agreement terhadap Ekspor Indonesia ke Jepang," *Seminar Nasional Cendekiawan*, 2015.

[21] Jesica and A. S. Kurnia, "Dampak Penerapan Indonesia-Japan Economic Partnership Agreement (IJEPA) terhadap NIlai Ekspor dan Impor Indonesia," *Jurnal Dinamika Ekonomi Pembangunan*, vol. 2, no. 3, 2019, [Online]. Available: https://ejournal.undip.ac.id/index.php/dinamika_pembangunan/index

[22] S. T. Ardiyanti, "The Impact of Indonesia-Japan Economic Partnership Agreement (IJEPA) on Bilateral Trade Performance," *Buletin Ilmiah Perdagangan*, vol. 9, no. 2, 2015.

[23] S. Soeharjoto, N. I. Salma, D. A. Tribudhi, and L. Masyhudi, "Economic Growth And Carbon Emissions In Asean-6 To Achieve Sustainable Development Goals Through Kuznet Curve Environmental Analysis Approach," *Jurnal Manajemen Industri dan Logistik*, vol. 6, no. 1, pp. 10–20, May 2022, doi: 10.30988/jmil.v6i1.972.

[24] D. Ciuriak, A. Dadkhah, and D. Lysenko, "The effect of binding commitments on services trade," *World Trade Review*, vol. 19, no. 3, pp. 365–378, Jul. 2020, doi: 10.1017/S1474745618000496.

[25] X. Su, S. Anwar, Y. Zhou, and X. Tang, "Services trade restrictiveness and manufacturing export sophistication," *North American Journal of Economics and Finance*, vol. 51, Jan. 2020, doi: 10.1016/j.najef.2019.101058.

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