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The Impact of Comprehensive and Progressive Trans-Pacific Partnership Free Trade Agreement on Indonesian Economy

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Abstract: Islamic law is inclined toward free trade and condemned imposing tariffs on trade with other states. Even when tariffs were imposed, they were imposed based on reciprocity. The Comprehensive and Progressive Trans-Pacific Partnership (CPTPP) is a free trade agreement to realize tariff elimination. CPTPP was signed by 11 countries in Santiago, Chile, on March 8, 2018, and this renewed agreement attracted Indonesia to join. This study analyzes the possible impact of CPTPP implementation on the Indonesian economy using the Global Trade Analysis Project (GTAP) model. We conduct a simulation to evaluate the impact of CPTPP on the Indonesian economy. The results show that the implementation of CPTPP leads to an increase in the real GDP and welfare of Indonesia. Also, the study found that CPTPP is beneficial to members. These results generally justify the elimination of tariffs promoted by Islamic law.

Keywords: *Free Trade Agreement, CPTPP, Tariff Reduction, and GTAP Model.*

Article History
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Introduction

Since the United States withdraw from the Trans-Pacific Partnership (TPP) free trade agreement on January 11, 2017, the other TPP member countries (Brunei, Malaysia, Singapore, Vietnam, Japan, Australia, New Zealand, Canada, Mexico, Chile, and Peru) should renew the TPP agreement. It is already predicted by Cheong and Tongzon (2013) which states that although the US has initiated the formation of TPP, from year to year, the US tends to decline its interest in TPP which will likely block TPP for economic and political reasons. On the other hand, 11 TPP member countries have agreed to continue the TPP without the US, which is then called the Comprehensive and Progressive Trans-Pacific Partnership (CPTPP) (Lee & Itakura, 2018).

Sri Mulyani as Minister of Finance of the Republic of Indonesia expressed the desire of Indonesia to join the TPP even though the US has come out (Noor, 2018). Furthermore, the Minister of Trade of the Republic of Indonesia, Enggartiasto Lukita, stated that there are plans of ASEAN non-CPTPP member countries to hold a meeting in Singapore to hear explanations from the four ASEAN countries that have entered the CPTPP (Wiangga, 2018). Based on this, most likely in the future, Indonesia has the potency to join CPTPP as projected by Lee and Itakura (2018) and Petri et al. (2014). On the other hand, the United Kingdom is also interested in joining CPTPP (Knaus, 2018).

This paper aims to analyze the impact of CPTPP on the Indonesian economy using a computable general equilibrium (CGE) model. In the first scenario, this paper analyzes the effect of the implementation of CPTPP plus Indonesia and the United Kingdom on the Indonesian economy, while the second scenario is to analyze the impact of the implementation of CPTPP plus Indonesia and the United Kingdom accompanied by Korea, Philippines, Thailand, and China as projected by Petri et al. (2014) on the Indonesian economy. To the best of the author's knowledge, research focusing on the impact of CPTPP on the Indonesian economy after the United States left this agreement is very limited.

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This paper is expected to contribute to the current international trade literature by providing some of these analyzes in a possible multi-country setting. We also view this agreement as an implementation of the Islamic law that supports tariff elimination and examines whether tariff elimination is beneficial.

The rest of this paper is organized as follows. Section 2 presents the literature review. The methodology is described in Section 3. Results and discussion are elaborated on in Section 4. Finally, Section 5 concludes the finding.

Literature Review

Gains from International Trade

Why do countries trade? Is trade profitable? Countries trade because they believe that they have benefited from the exchange. The theory about international trade provides the answer. International trade is the concept of exchange between people or entities in two different countries. In international trade, tariffs, quotas, and other government-imposed barriers to trade are almost universal. A large part of international trade theory deals with why such barriers are imposed, how they operate, and what effects they have on flows of trade and other aspects of economic performance.

Trade theory shows why it is beneficial for a country to engage in international trade even for products that can be produced for itself. We may get the idea by the exchange of raw materials and manufactured goods across national borders. By the idea, we will learn implications for international business. The benefits of trade allow a country to specialize in the manufacture and export of products that can be produced most efficiently in that country. There are three primary models in the old trade theory: absolute advantage by Smith, comparative advantage by Ricardo, and the Heckscher-Ohlin model.

Adam Smith developed the absolute advantage theory in 1776 in his book The Wealth of Nations. He argues that a country has an absolute advantage in the production of a product when it is more efficient than other countries in producing it (Król, 2019). According to Smith, countries must specialize in the production of goods that they can produce more efficiently than other countries. Trade based on the theory of absolute superiority is encouraged by comparing the absolute workforce needed per unit so that each country will produce and export goods that require fewer resources and imported goods that can be produced more efficiently abroad. International specialization in the production of goods will lead to technological progress in the long run as countries continue to improve their production methods. This improvement will be followed by further reductions in production costs and contribute to increasing production, which will, in turn, expand goods available for consumption (Saif, 2019).

David Ricardo presented the theory of comparative advantage in his book Principles of Political Economy in 1817. According to him, a country has a comparative advantage in producing goods if the opportunity cost of producing goods in terms of other goods is lower in that country than in other countries. It means that trade between the two countries can benefit both countries if each country exports goods that have a comparative advantage (Król, 2019). The basis of the Ricardian model does not stand on absolute costs, but rather on the opportunity costs of production, and establishes countries to produce goods that have relative productive advantages. Consistent with Smith's argument, the ultimate goals of international trade are to increase efficiency in the use of resources, and in turn, increase global consumption. However, the theory of comparative advantage recommends that even if a country is more efficient in producing all goods than its rival countries, it should not produce all of them. Instead, he must evaluate to see what goods can be produced most efficiently among all goods and allocate resources for the right products (Saif, 2019). This model conveys important ideas about comparative advantage but does not allow us to talk about income distribution (Krugman et al., 2017).

The Heckscher-Ohlin model was developed in the early twentieth century to address the role of differences in cross-country endowment factors in international trade. It stands on the assumption that technology levels are identical in trade countries and each country has a fixed factor endowment rate in one of two factors of production in a simplified model: between land, labor, and capital. The Heckscher-Ohlin model illustrates the differences between underlying countries that motivate trade through variations in the relative factor of contributions between the two countries, both in labor or capital (Saif, 2019). Various factors of production in this model can move across sectors. Resource differences

(availability of these factors at the country level) drive trade patterns. This model also captures the long-term consequences of trading on income distribution (Krugman et al., 2017).

Islamic Law and Free Trade

From an Islamic perspective, trade is discussed in the Holy Quran. Surah Al-Baqarah verse 275 reads: *Those who eat Riba (usury) will not stand (on the Day of Resurrection) except like the standing of a person beaten by Shaitan (Satan) leading him to insanity. That is because they say: "Trading is only like Riba (usury)," whereas Allah has permitted trading and forbidden Riba (usury)*. In theory, Islamic trading is based on avoiding *Riba* (interest), *Gharar* (speculation), *Maysir* (uncertainty), and carrying out profit and loss sharing, which is touted as a foundation. Also, there should be no pure economic interest in transactions. They must contribute to social harmony. They must be balanced between equity and debt, and debt trading must be explicitly avoided (Shabbir et al., 2016).

Islam recognizes several taxes divided into 4 categories in the early Islamic era (Malkawi, 2006). Firstly, *Zakat* is an obligatory religious tax calculated annually on minimum possessions at a fixed rate and distributed to eight groups as mentioned in Surah At-Tawbah verse 60 reads: "*Zakat is for the poor and for the needy and for those employed to collect (Zakat). And for those whose hearts will be brought together (for Islam) and for slaves and for those in debt and for (those) on the Way of Allah and for the travelers - an obligation by Allah. And Allah is All-Knowing, All-Wise*." Secondly, *Sadaqa* is a voluntary tax on every Muslim and distributed to the eligible (such as the poor). Thirdly, *Ghanima* is the share of the Islamic government from the proceeds of war. Lastly, *Jizya* is a tax imposed on non-Muslim for the protection provided by Islamic Government.

In the subsequent era, where the state is increasingly developing, an Islamic state has the right to impose other taxes. It is according to the *Hadith* of Prophet Muhammad S.A.W. reads "*in your money, there are taxes besides Zakat.*" However, regarding the tariff, there is *Hadith* that places a blanket prohibition on tariffs regardless of the citizenship, the religion of a trader, or local content of Muslim goods. As the Prophet Muhammad S.A.W. addresses customs duties specifically in *Hadith* reads: *"One who wrongfully takes an extra tax (Sahib Mask) will no enter Paradise."*

The free tariff was not only set as a doctrine, but it was also practiced. For nearly seventy years, the trade in Medina remained duty-free until the Caliph Muawiyah bin Abu Sufyan levied it. Then, the Caliph Umar bin Abdul Aziz abolished tariff but later imposed a tariff of 10 percent to retaliate against other states that levied a tariff on Muslim goods. So, in this case, the tariff policy was based on reciprocity.

Comprehensive and Progressive Trans-Pacific Partnership Free Trade Agreement

Comprehensive and Progressive Trans-Pacific Partnership (CPTPP) is a free trade agreement that was originally called the Trans-Pacific Partnership (TPP) free trade agreement. The name changed after the United States left the TPP and made the remaining 11 member countries renew this and its name became the Comprehensive and Progressive Trans-Pacific Partnership, abbreviated as CPTPP, or TPP-11 (Becerril-Torres & Munguía-Vazquez, 2019). CPTPP is an expansion of the existing free trade agreement between Brunei, Chile, New Zealand, and Singapore. Currently, CPTPP is negotiated between 11 economies, including the existing four economies plus Australia, Canada, Japan, Malaysia, Mexico, Peru, and Vietnam (Khan et al., 2018).

CPTPP was formed at the Asia-Pacific Economic Cooperation Summit (APEC) in Da Nang in November 2017. CPTPP retained the original text of the TPP that was agreed in October 2016 but deferred several provisions and left some specific problems to be resolved. The benefits of CPTPP are new markets, integration of production, border clearance upgrade and service, and investment facilitation (Tran, 2018). The complete CPTPP agreement is like an elephant, 30 chapters consisting of nearly 600 compact legal pages text in small fonts accompanied by thousands of pages from each country's schedule for goods, services, investments, government procurement, business mobility, and more, plus dozens of bilateral letters (Elms, 2018).

The deferred provisions have an impact on the CPTPP regime in the following areas (Ciuriak et al., 2017):

a) Express shipments,
b) Investment (in particular, the investor-state dispute settlement or ISDS mechanism),

c) The intellectual property (IP) property rights regime, in particular measures covering, inter alia: patentable subject matter, patent term restoration, protection of undisclosed data for pharmaceutical approvals, extended term of protection for data used to developed biologic medicines, technological protection measures (TPMs) and rights management information (RMI), and copyright extension, and
d) Resolution of telecommunications disputes.

The issues that remain outstanding for further negotiations (with the CPTPP Member requiring modifications in parentheses) include (Ciuriak et al., 2017):

a) State-owned enterprises (Malaysia),
b) Services and non-conforming investment measures (Brunei Darussalam),
c) Dispute settlement trade sanctions (Vietnam), and
d) Cultural exception (Canada).

Due to the US withdrawal, CPTPP may not be more effective and is no more threat to China. However, it is still a threat to East Asian integration. It will attract some of the ASEAN economies that have various partnerships with China (Khan et al., 2018). CPTPP will be the most transformational trade agreement in decades. What makes this FTA so important is its deep and interrelated nature commitment that more accurately reflects the way business is done today. It establishes a healthier structural framework for future economic activity (Elms, 2018). The uniqueness of CPTPP is that this is not a bilateral agreement but a multilateral agreement. CPTPP allows member countries to trade on global platforms where they exist. Many regulatory policies are agreed upon by all countries involved, and in which object of trade the pact is to have a balanced trade agreement that benefits all countries, which is a very negotiable package allowed member countries to access several markets at once without renegotiating individual trade pacts with each country. The CPTPP involves several major countries that constitute 40% of the global economy (Lin, 2018).

Previous Study

The study that discusses how the influence of free trade agreements in Asia-Pacific using CGE has been widely worked out. Lee et al. (2009) analyze free trade agreements of ASEAN+3 (China, Japan, and Korea) and ASEAN+6 (China, Japan, Korea, India, Australia, and New Zealand) using dynamic CGE. The results show that China, Singapore, and other ASEAN countries would gain relatively large welfare from the implementation of the agreement when both trade facilitation and endogenously determined productivity are included.

Cheong and Tongzon (2013) analyze the net impact on the economy due to the initiation of the TPP agreement by the US and the initiation of Regional Comprehensive Economic Partnership (RCEP) by ASEAN using dynamic CGE. The results show that TPP may be in trouble because it has a small economic impact.

Li and Whalley (2014) analyze the potential effects of TPP negotiations on participant and large non-participant countries by emphasizing its influence on China's economy. By using a modified CGE model, the results show that, unlike other free trade agreement that leads to providing benefits to all countries, TPP will only give benefit to member and some non-member countries. Non-participating China and other non-TPP member countries will have a negative effect on welfare, but it provides benefits to TPP member countries. On the other hand, China will significantly gain if joining TPP, which will also benefit other member countries of TPP.

Lee and Itakura (2018) analyze the effects of Mega Regional Trade Agreements (MRTA) on the ASEAN economy. The results show that when RCEP is implemented over 2019-2028, RCEP+Taiwan is implemented from 2024 to 2033, and the Free Trade Area of Asia Pacific (FTAAP) is implemented from 2028 to 2035, the welfare of ASEAN countries on average will increase from 1.6 to 3.7 percent in 2034. In the second scenario, when TPP without the United States is implemented over 2019-2028, and then Korea, Indonesia, Philippines, Thailand, and the United States added over 2024-2033, and it is followed by FTAAP implementation over 2028-2035, the results show that the welfare of ASEAN countries is less than or equal compared with the first scenario. In the third scenario, when United Stated is included from the beginning of the TPP, it would substantially increase the welfare of Vietnam, but it only slightly affects the welfare of the other ASEAN countries. Fourth, when the first and the second

scenarios are enforced simultaneously, RCEP and TPP member countries are found to be less than the sum of the gains under the first two scenarios.

Kikuchi et al. (2018) analyze the influence of Mega-Regional Trade Agreements (MRTA) including the EU-Vietnam Free Trade Agreement (EVFTA), TPP, CPTPP, RCEP, and FTAAP to the Vietnam economy. The results show that the EVFTA increases Vietnam's real GDP by 8.1 percent, while TPP increases real GDP by 13.2 percent. CPTPP increases real GDP by 6.5 percent while RCEP increases real GDP by 9.2 percent. The most substantial real GDP increase is obtained from FTAAP implementation based on TPP template by 27.1 percent, while FTAAP implementation based on RCEP template is 19.4 percent.

Kawasaki (2015) analyzes the influence of regional Economic Partnership Agreements (EPA) in Asia-Pacific. The results indicate that income gains of overall Asia-Pacific Economic Cooperation (APEC) economies are 1.2 percent of regional GDP from the TPP, 2.1 percent from the RCEP, and 4.3 percent from FTAAP. TPP and RCEP can be considered as complementary when forming FTAAP.

Petri and Plummer (2012) are the first researchers that compare TPP tracks and Asian tracks FTA. Japan is estimated to get the highest absolute gains on the TPP track, while China is estimated to get the most significant absolute gains on the Asian track. Vietnam and Hong Kong are estimated to get the most substantial percentage gains on the TPP track and Asian track, respectively. Furthermore, in Petri et al. (2014), TPP is assumed to be expanded from 12 countries to 17 countries by adding China, Indonesia, Korea, Philippines, and Thailand. The result indicates that TPP favors the countries that do not yet have a trade agreement with the United States, such as Vietnam and Japan. Also, Petri and Plummer (2016) show that TPP will substantially benefit its member. United States real income would rise by $131 billion in 2030, while Indonesia as a non-TPP member, its real income would fall by $2 billion in 2030.

Sahu (2019) estimates the impact of TPP on the Indonesian economy. The results show that if Indonesia joins TPP, it causes the goods trade deficit of $19 million, but if Indonesia does not join TPP, it causes the goods trade surplus of $1.6 billion.

Based on the literature, the research focuses on the impact of TPP on the Indonesian economy after the United States decides to leave this agreement is very limited. So, the motivation of this paper is to contribute to the current international trade literature by providing some analyzes about the impact of CPTPP on the Indonesian economy. We also view this agreement as an implementation of the Islamic law that supports tariff elimination and examines whether tariff elimination is beneficial.

Methodology

The GTAP Model

GTAP is an analytical tool based on the CGE model developed by the Center for Global Trade Analysis, Purdue University that aims to facilitate economists in conducting international trade research using the extensive economic linkage framework. CGE model is a system of equations that model the broad of the economy and explains the motivation and behavior of all producers and consumers in the economy and their interrelationships (Burfisher, 2011). The model structure contained in GTAP is fully described by Hertel (1997). GTAP model assumes that the production function follows a constant return to scale, the market is perfectly competitive, product differentiation is based on country of origin, and economic condition is in full employment.

Data and Aggregation

This study uses a database of GTAP version 9A developed by the Center for Global Trade Analysis, Purdue University, covering 140 countries and 57 sectors (Aguiar et al., 2016). The regional, sectoral, and factor aggregations used are the 2011 baseline which is detailed in Table 1, Table 2, and Table 3, respectively.

Table 1. Regional Aggregation

Country/Region	GTAP 9A Database (140 Country)
Brunei	Brunei Darussalam
Malaysia	Malaysia
Singapore	Singapore
Vietnam	Vietnam
Japan	Japan
Australia	Australia
New Zealand	New Zealand
Canada	Canada
Mexico	Mexico
Chile	Chile
Peru	Peru
Indonesia	Indonesia
UK	United Kingdom
Korea	Korea
Philippines	Philippines
Thailand	Thailand
China	China
US	United States of America
Lao PDR	Laos PDR
Cambodia	Cambodia
India	India
Russia	Russian Federation
Taiwan	Taiwan
Hong Kong	Hong Kong
European Union (EU)	Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxemburg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, and Rest of EFTA.
Rest of the World (RoW)	All the other economies or regions

Source: Author specification based on GTAP Database 9A.

Policy Scenario

This study assumes that CPTPP will cut tariffs up to 98 percent (Knaus, 2018). The simulation is under the following scenarios:

a) Scenario 1: Elimination of 98 percent tariff between CTPP members plus Indonesia and the United Kingdom.
b) Scenario 2: This scenario is still the same as scenario 1, but then added by Korea, Filipina, Thailand, and China as referenced by Petri et al. (2014).

Table 2. Sectoral Aggregation

Sectors	GTAP 9A Database (57 sectors)
Rice	Paddy rice, processed rice
Other grains	Wheat, cereal grains n.e.c.
Sugar	Sugar, sugar cane and sugar beet
Other crops	Vegetables and fruits, oilseeds, plant-based fibres, crops n.e.c.
Livestock	Cattle, sheep and goats, animal product n.e.c., raw milk
Meats	Cattle, sheep, goat, and horse meat products, meat products n.e.c.
Dairy products	Dairy products
Other food products	Vegetables oil and fats, food products n.e.c., beverages and tobacco products
Fossil fuels	Coal, oil, gas
Natural resources	Forestry, fishing, mineral n.e.c.
Textiles	Textiles
Apparel	Wearing apparel, leather products
Wool	Wool, silk-worm cocoons
Petroleum products	Petroleum, coal products
Chemical products	Chemical, rubber, plastic products
Metal products	Ferrous metal, metal products, metal n.e.c.
Machinery	Machinery and equipment
Electronic equipment	Electronic equipment
Motor vehicles	Motor vehicles and parts
Other transport equipment	Transport equipment n.e.c.
Other manufactures	Wood products; paper products, publishing, mineral products n.e.c., manufactures n.e.c.
Construction and Utilities	Construction, electricity, gas manufacture and distribution, water
Trade	Trade
Transport	Sea transport, air transport, transport n.e.c.
Communication	Communication
Financial services	Insurance, financial services n.e.c.
Other private services	Business services, recreation and other services
Government services	Public administration and defense, education, health services

Source: Author specification base on GTAP Database 9A.

Table 3. Factor Aggregation

Factor of Production	Aggregation Group	Factor Mobility
Land	Land	Sluggish (ETRAE = -1)
Technicians, Associates, Professionals, Official and Managers.	Skilled Labor	Mobile
Agricultural and Unskilled Clerks Service/Shop Workers	Unskilled Labor	Mobile
Capital	Capital	Sluggish (ETRAE = -1)
Natural Resources	Natural Resources	Sluggish (ETRAE = -0,001)

Source: Author's specification based on Rosyadi and Widodo (2018).

Results and Discussions

GTAP models predict a positive influence on the real GDP of Indonesia and the United Kingdom, as shown in Table 4. Under scenario 1, the real GDP of Indonesia and the United Kingdom rose by 0.04% and 0.06%, respectively. Meanwhile, the countries that joined in scenario 2, namely Indonesia, United Kingdom, Korea, Philippines, Thailand, and China, their real GDP increased by 0.04%, 0.09%, 0.52%, 0.10%, 0.42%, and 0.11%, respectively. The country that benefited most from scenario 1 is Malaysia,

with an increase in real GDP of 0.21%, whereas under scenario 2 is Vietnam, with an increase in real GDP of 0.64%. On the other hand, the most disadvantaged country based on scenario 1 is Thailand with a decrease in real GDP of 0.9% as a non-member country, while scenario 2 is Cambodia with a decrease in real GDP of 0.27 percent also as a non-member country. The majority results in Table 4 can be concluded that CPTPP only benefits member countries in line with Li and Whalley (2014).

Table 4. Impact on Real GDP

Country	Change in Real GDP (%)	
	Scenario 1	Scenario 2
Brunnei Darussalam	0.12	0.14
Malaysia	0.21	0.41
Singapore	0.02	0.03
Vietnam	0.18	0.64
Japan	0.07	0.19
Australia	0.07	0.11
New Zealand	0.15	0.16
Canada	0.20	0.29
Mexico	0.04	0.15
Chile	0.03	0.03
Peru	0.00	0.01
Indonesia	0.04	0.04
United Kingdom	0.06	0.09
Korea	-0.01	0.52
Philippines	-0.01	0.10
Thailand	-0.09	0.42
China	-0.01	0.11
United States of America	0.00	-0.01
Laos PDR	0.02	-0.25
Cambodia	-0.03	-0.27
India	-0.01	-0.04
Russian Federation	0.00	0.00
Taiwan	-0.01	-0.04
Hongkong	0.00	0.00
European Union	0.00	-0.01
Rest of the World	0.00	-0.02

Source: GTAP model simulation result (2019), processed.

Table 5 shows the value of equivalent variation, which in the GTAP model measures the gain or loss of a country's welfare. Based on scenario 1, the welfare of Indonesia and the United Kingdom increase by $378.66 million and $1,677.75 million, respectively. While in scenario 2, the welfare of Indonesia, the United Kingdom, Korea, Thailand, and China increase by $6.91 million, $3,235.02 million, $11,903.3 million, $2,343.07 million, and $8,852.64 million, respectively. Unlike other member countries, Peru and the Philippines experienced a loss in welfare by $38.88 million, and $259.89 million, respectively under scenario 2.

The trade balance is an indicator showing the international trade relations of a country whose value is derived from export minus import. Based on Table 6, the value of Indonesia's trade balance is in a deficit position in scenario 1 at $1,702.28 million, while in scenario 2, the deficit is $1,140.71 million. All the member countries either in scenario 1 or scenario 2 suffer from deficit except Singapore. On the other hand, the US became the country with the largest surplus either in scenario 1 or scenario 2 which amounted to $9,013.38 million and $37,217.45 million, respectively. It suggests that US action that opts

out of the TPP is the right thing to do. Furthermore, all non-member countries have a trade surplus because they can impose a tariff on imports to protect their trade balance.

Term of trade is an indicator that shows the ratio between a country's export prices its import prices. Term of trade, in other words, is an index of the export price of a country which is seen from its import. The terms of trade in Indonesia decreased in scenarios 1 and 2 by 0.01% and 0.22%, respectively (see Table 7). New Zealand is a member of the CPTPP who most benefited in terms of trade in scenarios 1 and 2, which increased by 3.95% and 4.18%, respectively. On the other hand, the countries with the highest drop in terms of trade are Thailand in scenario 1 by 0.53% and Lao PDR in scenario 2 by 2.42%. Indonesia and Malaysia are two disadvantaged countries in terms of trade when they become CPTPP members in scenario 1, while in scenario 2, Indonesia, Malaysia, Philippines, Peru, and China are the five CPTPP member countries that suffer from a term of trade losses.

Changes in Indonesian imports due to joining CPTPP are shown in Table 8. The rice and motor vehicle sectors are the two largest increase of Indonesia's imports in scenario 1. In scenario 2, the apparel and motor vehicle sectors are the two largest increases to Indonesia's imports. Meanwhile, the fossil fuels sector (coal, oil, and gas) became the largest decrease of import in scenario 1, and the livestock sector became the largest decrease of import in scenario 2.

These findings imply that Indonesia needs to remain a member of the CPTPP because it is beneficial to improve Indonesia's income and welfare. In addition, Indonesia must develop non-commodity sectors before joining the CPTPP in order to compete with other member countries.

Table 5. Equivalent Variation

Country	Equivalent Variation ($ US millions)	
	Scenario 1	Scenario 2
Brunei Darussalam	87.04	122.92
Malaysia	376.19	729.22
Singapore	1,257.43	2,432.30
Vietnam	1,078.56	1,135.32
Japan	7,199.91	27,757.27
Australia	3,759.59	5,386.45
New Zealand	2,013.72	2,161.42
Canada	5,243.55	6,977.45
Mexico	633.30	1,883.43
Chile	778.22	499.62
Peru	25.66	-38.88
Indonesia	378.66	6.91
United Kingdom	1,677.75	3,235.02
Korea	-1,087.11	11,903.30
Philippines	-198.07	-259.89
Thailand	-1,641.17	2,343.07
China	-3,426.15	8,852.64
United States of America	-4,968.63	-18,514.41
Laos PDR	2.64	-115.47
Cambodia	-30.30	-184.53
India	-706.32	-2,792.52
Russian Federation	347.11	427.05
Taiwan	-397.93	-2,847.26
Hongkong	-120.56	-748.11
European Union	-3,354.41	-11,499.45
Rest of the World	3.68	-4,816.53

Source: GTAP model simulation result (2019), processed.

Table 6. Change in Trade Balance

Country	Change in Trade Balance (X-M in $ US millions)	
	Scenario 1	Scenario 2
Brunei Darussalam	-98.20	-108.04
Malaysia	-3,063.71	-4,321.79
Singapore	601.08	1,138.68
Vietnam	-2,621.92	-5,850.63
Japan	-2,351.26	-11,788.15
Australia	-7,191.04	-8,404.18
New Zealand	-667.10	-732.55
Canada	-1,143.58	-1,216.37
Mexico	-416.35	-1,592.88
Chile	-162.41	-155.81
Peru	-69.62	-73.80
Indonesia	-1,702.28	-1,140.71
United Kingdom	-688.07	-435.91
Korea	680.63	-13,634.31
Philippines	198.33	-55.72
Thailand	904.71	-8,689.32
China	1,577.72	-10,510.20
United States of America	9,013.38	37,217.45
Laos PDR	0.64	102.75
Cambodia	19.63	122.71
India	581.14	2,351.16
Russian Federation	245.29	1,532.01
Taiwan	49.54	157.14
Hongkong	64.25	295.21
European Union	4,529.96	16,987.30
Rest of the World	1,652.82	8,451.91

Source: GTAP model simulation result (2019), processed.

Table 7. Change in Term of Trade

Country	Change in Term of Trade (%)	
	Scenario 1	Scenario 2
Brunnei Darussalam	0.06	0.17
Malaysia	-0.17	-0.32
Singapore	0.42	0.80
Vietnam	0.70	0.13
Japan	0.33	1.67
Australia	1.02	1.40
New Zealand	3.95	4.18
Canada	0.34	0.36
Mexico	0.05	0.01
Chile	0.86	0.48
Peru	0.03	-0.24
Indonesia	-0.01	-0.22
United Kingdom	0.04	0.14

Korea	-0.16	0.92
Philippines	-0.18	-0.47
Thailand	-0.53	0.31
China	-0.16	-0.06
United States of America	-0.18	-0.65
Laos PDR	0.04	-2.42
Cambodia	-0.25	-1.46
India	-0.10	-0.41
Russian Federation	0.05	-0.01
Taiwan	-0.12	-0.86
Hongkong	-0.07	-0.41
European Union	-0.04	-0.15
Rest of the World	0.01	-0.11

Source: GTAP model simulation result (2019), processed.

Table 8. Change in Aggregate Imports of Indonesia

Sectors	Change in Aggregate Imports (%)	
	Scenario 1	Scenario 2
Rice	9.77	3.32
Other grains	1.21	1.30
Sugar	2.10	3.54
Other crops	1.52	2.15
Livestock	0.25	-2.16
Meats	3.89	0.09
Dairy products	1.81	1.29
Other food products	2.91	5.99
Fossil fuels	-0.37	0.38
Natural resources	1.07	0.72
Textiles	2.81	0.96
Apparel	6.55	12.61
Wool	1.54	8.07
Petroleum products	0.56	0.91
Chemical products	4.42	4.69
Metal products	4.51	4.68
Machinery	2.09	1.86
Electronic equipment	0.64	0.34
Motor vehicles	8.59	10.20
Other transport equipment	0.75	1.65
Other manufactures	3.63	4.46
Construction and Utilities	1.22	0.41
Trade	0.68	0.39
Transport	0.22	0.21
Communication	0.60	0.76
Financial services	0.78	0.91
Other private services	0.65	0.70
Government services	0.58	0.79

Source: GTAP model simulation result (2019), processed.

Concluding Remarks

This study analyzes the possible impact of CPTPP implementation on the Indonesian economy using the GTAP standard model. The results show that the implementation of CTPP leads to an increase in the real GDP (income) of Indonesia. Also, the study found that CPTPP is only beneficial to members. This finding reinforces the results of previous studies conducted by Li and Whalley (2014).

Besides, the Indonesian welfare shown by equivalent variation indicates that the implementation of CPTPP can improve the welfare of Indonesia. However, the implementation of CPTPP by involving Korea, Philippine, Thailand, and China led to an increase in Indonesian welfare but not as big as when without them.

Islamic law is inclined toward free trade and condemned imposing tariffs on trade with other states. Even when tariffs were imposed, they were imposed based on reciprocity. The implementation of CPTPP as a tariff elimination exercise gives *maslahah* (proxied by income and welfare) to the Indonesian economy. In general, it justifies the elimination of tariffs promoted by Islamic law.

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