
**ECONOMIC IMPACT OF REDUCING IMPORT RATE TOWARDS A
FREE TRADE AGREEMENT INDONESIA-TURKEY**

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Abstract

The purpose of this paper to analyze the effects of reducing import rate towards a free trade agreement (FTA) between Indonesia-Turkey which is still ongoing. This study method uses secondary data-analysis using software Global Trade Analysis Project (GTAP) version 8 and the source of data obtained from database on GTAP. The results shows that based on two simulations carried out both partial and full liberalization, Indonesia got better results than Turkey both macroeconomic and sectoral output.

Keywords: import rate, free trade agreement, global trade analysis project, international trade

1. Introduction

The world economy that has developed since the end of the 20th century has increasingly opened trade relations between countries. The importance of trade is based on the inability of a country to meet the needs of its people both in goods and services (Rifin, Feryanto, Herawati, & Harianto, 2020). In general, in trade between countries there are usually still various obstacles, one of which is the barrier to import tariffs which tends to give losses to countries involved in a trade (Rosyadi & Widodo, 2018). Free trade is used as a solution to the problem of these barriers, this is based on the fact that freer trade is able to provide benefits to the countries involved because the flow of goods and services between countries is faster and easier (Yu, Cheng, & Yang, 2010).

Free trade can also provide various benefits for participating countries such as trade liberalization by reducing tariff barriers through a free trade agreement or commonly known as a free trade agreement (FTA) (Hussain & Ali Shah, 2017). The state of Indonesia, as an inseparable part of the world, considers that liberalization by implementing FTAs is an open opportunity for trade activities between the two countries (Acar, Alpay, Bakimli, & Koc, 2009). Indonesia still imposes high import tariffs with other countries, one of them is Turkey, import tariff data taken through the GTAP database (version 8) shows that Indonesia imposes high import tariffs to Turkey on the tobacco and beverage, apparel and manufacturing sectors. Meanwhile, Turkey imposes high import tariffs to Indonesia on animal products, oil seeds and food products.

The ratification of the FTA between the two countries is currently still in the negotiation stage (it has reached 8 rounds of negotiations) where the reason the two countries want to carry out an FTA as reported in the Foreign Economic Relations Board of Turkey assesses that the two countries can strengthen economic relations based on the fact that they are both countries members of the G20 and D8. In addition, it was stated that Turkey is a key country for Indonesia to reach the Middle East and European markets. Meanwhile, Indonesia is also one of the key

countries for Turkey to be able to reach the ASEAN market, which has a population of 650 million.

The creation of an FTA can increase the volume of trade between the two and will have a multiplier effect on other economic activities that may bring changes to macroeconomic and sectoral conditions (Boughmani et al, 2016). This paper will look at the impact of the FTA of the two countries on the macroeconomic (GDP, welfare, and trade balance) and sectoral sectors of each country. This paper is structured as follows: section 2 literature review, section 3 methodology, section 4 finding and results, and section 5 conclude the whole paper.

2. Literature Review

The theories related in this research will be explained in the following sections:

2.1 General Equilibrium Theory

Economic analysis or study that studies how supply and demand conditions interact in various markets simultaneously. This theory explains that in the market there is no excess demand and supply so that the market is in a state of balance. The model used in this theory is divided into 4, namely: the applied general equilibrium model, the Lewis applied general equilibrium model, the INDORANI model, and the GTAP model. The CGE model is an equilibrium model where decision making by economic agents is highly dependent on price (Stenberg & Siriwardana, 2015).

The general equilibrium neoclassical approach, Walrasian states, the main equation is derived from the constraints of the neoclassical optimization of the production and consumption functions. Producers are assumed to choose the level of operation so that they can maximize profits or minimize costs using factors of production such as labor, capital and land. Consumers are assumed to choose their purchases to maximize utility and are subject to budget constraints. On balance, the model solution provides a set price that clears all commodity and factor markets thus making all individual agent optimizations feasible and mutually consistent (Siriwardana, 2004).

2.2 International Trade Theory

International trade is trade carried out by residents of a country with residents of other countries on the basis of mutual agreement. The population in question can be between individuals, between individuals and the government of a country or the government of a country and the government of another country. International trade in many countries is one of the main factors to increase GDP. Analysis of international trade can be carried out using two approaches: First, through a partial equilibrium approach. Second, through a general balance approach. The partial balance approach analyzes all forms of trade policies that distort the market in a particular market without explicitly taking into account the consequences for other markets, while the general balance analysis sees the market as a system (Ariyasajakorn et al, 2009).

2.3 Economic Integration Theory

Refers to trade policy by reducing or eliminating trade barriers only among countries that mutually agree to form a limited economic integration. In general, economic integration benefits

developing countries because it can improve the economy without being bound by various rules that hinder each country. So that it can form alignment of regulations for the same purpose, which is attractive and beneficial for member countries (Juarez & Dhehibi, 2017; Yuliati, & Luthfi, 2017).

3. Methodology

3.1 Research Scope

The scope of this research is a gradual decision on the plan for an FTA which can be seen from the economic side, namely GDP, welfare, trade balance, and commodity output in Indonesia and Turkey.

3.2 Types and Sources of Data

The main data used in this research is secondary data, namely from the latest version of the Global Trade Analysis Project (GTAP) database, which is version 8. There is an input-output table, primary input value, added value for the production sector, intermediate input, transportation, level of protection, bilateral trade, subsidies, and taxes from 129 regions and 57 sectors (Global Trade Analysis Project, 2019). Aggregation is carried out to simplify calculations in the model, countries will be aggregated into 3 regions, namely Indonesia, Turkey, and the Rest of World and commodity aggregation will be aggregated into 10 economic sectors.

3.3 Simulation Design

GTAP is a software which contains a database for international trade developed by Purdue University. In the GTAP version 8 database, there are 129 regions and 57 sectors that are aggregated by simulation. In processing the GTAP model, Run GTAP software is used. The process is carried out by adjusting the closure and shock according to the research objectives. The simulation design were done based on 2 simulations. The first simulation is to reduce import tariffs by 50% (partial liberalization) and the second simulation is to reduce import tariffs by 100% (full liberalization) with both simulations are carried out on all aggregated sectors.

4. Finding and Results

4.1 Indonesia-Turkey Free Trade Agreement with Partial Liberalization

Based on the results on the macroeconomic side which is viewed based on GDP, welfare, and trade balance presented in Table 1. Note that welfare result measured using equivalent variation (EV) in the GTAP software. As a result, from these three macroeconomic factors, Indonesia is more profitable than Turkey. In terms of GDP and the welfare of the two countries experiencing changes, even the result shows both decreasing, but the decline was impacted more in Turkey than in Indonesia. Meanwhile, from the side of the trade balance, Indonesia experienced positive results, while Turkey experienced negative results. This can be seen from the FTA between two countries, Indonesia are better able to export their goods to Turkey presented in Table 2.

Regarding the output of commodities between sectors presented on Table 2, the result shows that Indonesia is sable to make positive outcome for six commodities where this output can be used to exports more in Turkey. Meanwhile, Turkey only have four sectors which had a positive

impact. This can prove why Indonesia's trade balance having positive result meanwhile Turkey isn't.

Table 1: Result on macroeconomic with Partial Liberalization

Country	GDP (%)	Equivalent Variation (US\$ Million)	Trade Balance (US\$ Million)
Indonesia	-69,68	-173,72	2182,79
Turkey	-176,50	-193,63	-4271,64

Source: Model Simulation

Table 2: Result on output commodities with Partial Liberalization

Sectoral Output	Indonesia	Turkey
GrainCrops	0,03	-0,04
Meat Lsk	0,31	-0,01
Extraction	0,11	0,02
ProcFood	-0,09	0,08
Textile	-1,21	0,08
Manufacture	0,06	0,07
Bev_Tobacco	-0,08	0,04
Util_Cons	-0,09	-0,04
TransComm	0,02	-0,02
OthServices	0,01	-0,09

Source: Model Simulation

4.2 Indonesia-Turkey Free Trade Agreement with Full Liberalization

The results of full liberalization presented in Table 3 showed better results in both countries, where in terms of GDP and trade balance the two countries showed positive results even though from the perspective of Indonesia's welfare it had a positive impact while Turkey did not. This result can be said to be the same as partial liberalization where from the macroeconomic side, Indonesia gets better results than Turkey.

In terms of sectoral output, which is shown in Table 4, it also shows that Indonesia is more benefited by a full reduction in tariffs because Indonesia's sectoral production can be maximized compared to Turkey, seeing the many positive values that are obtained.

Table 3: Result on macroeconomic with Full Liberalization

Country	GDP (%)	Equivalent Variation (US\$ Million)	Trade Balance (US\$ Million)
Indonesia	10,87	68,82	15,15
Turkey	10,62	-31,42	11,50

Source: Model Simulation

Table 4: Result on output commodities with Full Liberalization

Sectoral Output	Indonesia	Turkey
GrainCrops	0,03	-0,01
Meat Lsk	0,15	-0,15
Extraction	-0,05	0,02
ProcFood	0,28	-0,18
Textile	0,52	0,14
Manufacture	-0,14	0,05
Bev_Tobacco	0,09	-0,04
Util_Cons	0,01	-0,02
TransComm	-0,07	0,03
OthServices	-0,05	-0,04

Source: Model Simulation

5. Conclusion

The conclusion of this study is that both in the partial and full liberalization scenarios, the results show that Indonesia will benefit more than Turkey both in terms macroeconomic and output sectoral. If the FTA between the two countries has been ratified then Indonesia is more favorable one of the reason might be because Indonesia has more population so that its sector production can run faster. The shock from this research based on reduction tariff import only, if any other researcher want to make further research, this can be added with shock using non-tariff measure between two countries.

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