opción

Revista de Antropología, Ciencias de la Comunicación y de la Información, Filosofía, Lingüística y Semiótica, Problemas del Desarrollo, la Ciencia y la Tecnología

Año 35, 2019, Especial N° 21

Revista de Ciencias Humanas y Sociales
ISSN 1012-1587/ ISSNe: 2477-9385
Depósito Legal pp 198402ZU45

Universidad del Zulia
Facultad Experimental de Ciencias
Departamento de Ciencias Humanas
Maracaibo - Venezuela

Opción, Año 35, Especial No.21 (2019): 272-287
ISSN 1012-1587/ISSNe: 2477-9385

Mapping of international trade liberalization and trade balance position in developing country

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Abstract

This research intends to explore the impact of tariff elimination on Indonesian Trade Balance. The GTAP model was used as the main tool of analysis. The findings show that the elimination of the tariff barrier will result in a decrease in a large part of Indonesian exports either for agricultural export or for manufactured export. In conclusion, the implementation of tariff elimination policy will cause the trade balance for some commodities to experience deficits, especially for some strategic commodities in the agricultural sector, and overall manufacturing.

Keywords: WTO, International Trade, Liberalization, GTAP.

Recibido: 10-03-2019 •Aceptado: 15-04-2019

Mapeo de la liberalización del comercio internacional y la posición de la balanza comercial en un país en desarrollo

Resumen

Esta investigación pretende explorar el impacto de la eliminación de aranceles en la balanza comercial de Indonesia. El modelo GTAP fue utilizado como la principal herramienta de análisis. Los resultados muestran que la eliminación de la barrera arancelaria resultará en una disminución de una gran parte de las exportaciones indonesias, ya sea para la exportación agrícola o para la exportación manufacturada. En conclusión, la implementación de la política de eliminación de aranceles hará que la balanza comercial de algunos productos básicos experimente déficits, especialmente para algunos productos estratégicos en el sector agrícola y la manufactura en general.

Palabras clave: OMC, Comercio Internacional, Liberalización, GTAP.

1. INTRODUCTION

Trade liberalization has become a popular term for the past two decades. The success of western countries, especially the United States and the European Union in increasing their economic performance, has encouraged developing countries to follow and follow the liberalization policies adopted by the two countries (Balassa, 2013).

Although there have been many previous studies including Balassa (2013), Feder (1983) proves that trade liberalization can encourage export growth, although the magnitude of the impact of

trade liberalization on the economy of each country is not the same. Devaragan (1990) stated that changes in the terms of trade (TOT) in African countries have increased the income effect causes the demand for domestic products increased with a higher import propensity. This is not an economic recovery from these countries, but these conditions create problems for their balance of payments. The results of this study are reinforced by Anggarwal and Agmon in Wijaya (2000), which shows that foreign investment, is the right policy for developing countries to enjoy success, but in this case further benefits for developing countries still need to be questioned. Findings that support trade liberalization are shown by (Wijaya, 2000).

Oktaviani (2000) found that APEC trade liberalization has an impact on the economic growth of member countries. According to Epstein (2008), directions, strategies and development policies are not only aimed at achieving economic growth targets, but how to make development in Indonesia create a balance between growth, employment and poverty eradication. In the development policies of the current administration, all of it was frequently voiced. The government strives for successful development that is pro growth, job and pro poor.

With the joining of Indonesia as a WTO member since 1994, Indonesia must commit to implementing every WTO agreement, including in the context of tariff elimination policy (Low, 2003) Based on the results of the compromise, at the sixth ministerial level WTO conference in Hong Kong, it was agreed that the determination of the

reduction in all forms of tariffs would be completed by the end of 2013. Ohlin's Heckscher School believes that free trade will benefit both parties (Bhagwati, 1993). However, the Myrdal concluded that free trade allows rich countries to become wealthier and poorer countries to become poorer.

Evidence that trade liberalization benefits every country is shown, among others, by Holst and Melo in 1991'. On the contrary, proof that developing countries are harmed by trade liberalization is, among others, demonstrated by (Devaragan, 1990). This study aims to look at the impact of tariff elimination by all WTO member countries on exports, imports and the performance of Indonesia's overall trade balance.

2. LITERATURE

There are several researchers who have studied and analyzed the effects of liberalization on economic performance including in the agricultural sector both in the context of a country and in a broader context. In general, these findings can be grouped into two. On the one hand, there are those who find that trade liberalization has a negative impact (Heller, 1978). However, others also find that liberalization has a positive or minimal impact that does not harm a country (Hakim, 2004). All of these researchers came to the conclusion that trade liberalization had a positive impact on the economies of member

countries as a whole. Krugman (2008) explains that trade between countries occurs for two reasons: (1) because these countries differ from each other. International trade benefits every country if they trade different products, and (2) countries trade with the aim of achieving economies of scale. If a country produces a product with a limited variety, then the country can produce in greater quantities. Thus, it will be more efficient than the country produces all products.

Based on Oktaviani (2000), in the general equilibrium approach, changes in a market will also result in changes in other markets. For example, when the government of state A applies a tariff policy on X1 products, the relative price of the product in the domestic market will increase. Tariffs imposed on imported products are called import tariffs, while tariffs imposed on export products are called export tariffs (Bouët, 2005).

Small countries are defined as countries that are unable to influence world prices, so that the world TOT does not change even though the small country changes its trade policy (Dunn, 2000).

3. METHODOLOGY

This study used secondary data from Indonesia trade in 2016. The main data used is the General Trade Analysis Project (GTAP) database version 6.2 which can be obtained from Purdue University,

USA (Mcdougall, 2003). In GTAP version 6.2 there are data including input-output tables, value-added production sectors, the value of primary inputs and intermediate inputs, bilateral trade, transportation, level of protection, taxes and subsidies from 87 regions and 57 sectors. Other data obtained from various institutions or agencies related to this research include the World Bank, International Monetary Fund (IMF), Indonesia Republic of Central Statistics Agency (BPS-RI), Ministry of Trade Republic of Indonesia, Ministry of Foreign Affairs Republic of Indonesia, Ministry of Agriculture Republic of Indonesia, and others. Data from these various agencies will be used as a complement in conducting the descriptive analysis.

4. RESULT AND DISCUSSION

Map of Indonesia's trade status and position among countries / regions in the world is shown in Table 4. Based on the table it can be seen that out of 15 product aggregation groups, 6 product groups showed a surplus trade balance. The product groups are livestock products, forestry product groups, vegetable oil product groups, and food product groups, and dairy commodity groups, and manufacturing commodity groups. However, Table 1 shows that of the 15 commodity groups studied, 9 other commodity groups namely rice, wheat, corn, horticulture, soybean, sugar, cotton, and milk and services were product groups whose trade balance experienced a deficit. Uniquely,

from groups that experience this deficit almost all of them are strategic commodities such as rice, wheat, and soybeans.

The trade balance deficit of some agricultural commodities such as this can at least be used as an indication that the agricultural sector policy in Indonesia is still relatively unsuccessful and directed. Let alone for a surplus, to meet domestic needs alone is not able. As a country that is the largest rice consuming in the world, Indonesia should no longer act as an importer of this commodity. In 2017, at least three basic material issues have become a hot topic of discussion, namely rice, soybean and cooking oil.

Table. 1: Map of Status and Position of Indonesia's Trade Balance among countries / regions in the world

Commodity	Value of export	Vaalue of Import	Status	Position	Deficit/Surplus
Rice	24.8	180.5	Importer	2	-155.7
Wheat	12.1	418.9	Importer	3	-406.8
Corn	6.2	137.3	Importer	6	-131.1
Horticulture	194.3	261.3	Importer	7	-67
Soybean	15.7	349.2	Importer	4	-333.5
Sugar	19.5	168.8	Importer	6	-149.3
Cotton	3.6	699.1	Importer	2	-695.5
Livestock	432.8	246.3	Exporter	6	186.5
Forestry	347.3	37.6	Exporter	5	309.7
Fisheries	310	7.3	Exporter	3	302.7
Vegetables oil	1 560.2	39.8	Exporter	3	1 520.4
Food	2 797.5	978.3	Exporter	5	1 819.2
Milk	107.7	356.7	Importer	9	-249
Manufacture	49019,8	28489,7	Exporter	6	20530,1
Services	4167,7	11184,4	Importer	5	-7016,7

Source: McDouugall, 2003; GTAP 6.2 Databased (processed), 2017; & Ministry of Trade of the Republic of Indonesia, 2018

4.1. Impact of Tariff Removal

Simulation results (Table 2) answer questions about the impact of tariff elimination (through several stages of reduction) on Indonesia's export performance. Based on the table, it can be seen that in the majority of Indonesian commodities, exports are increasing as a result of global tariff elimination. Of the 17 sectors, there were 12 commodities that experienced an increase in exports. The nine commodities are horticulture, soybean, sugar, cotton, livestock, milk, forestry, fisheries, vegetable oil, food, and other primary sectors (Hakim, 2004).

Based on Table 5, it can also be seen that Indonesian livestock commodities are commodities that will experience the largest increase in exports among all commodity groups. The simulation results show that this commodity will increase by 7.56 percent if all countries remove tariffs on imported goods by 10 percent. The magnitude of this increase in exports indicates that Indonesian livestock commodities are actually able to compete with other countries' commodities if all countries in the world reduce tariffs. Figure 4 confirms the finding that the greater tariff abolition by countries in the world, the more the impact will be on changes in Indonesia's exports. Increasing Indonesian exports will be sharper if all countries do tariff elimination.

Other commodities that also experience an increase in exports is quite sharp if all countries reduce or eliminate tariffs are vegetable oil. This finding is quite reasonable considering that Indonesia is a large

vegetable oil producing country in the world. One of the commodities included in the vegetable oil group is Palm Oil. For this commodity, Indonesia is the second largest producer and exporter of the world after Malaysia (Hakim, 2004). Commodities that also experienced a significant increase in exports were soybean, horticulture, sugar and milk and forestry. Overall these commodities will increase between 17 percent and 45 percent (Low, 2003).

Among all these commodities, rice commodity is a commodity that will experience the largest export decline of 467 percent. The huge decline in exports shows that this sector is really less competitive than the same commodity from abroad. According to several studies (Erwidodo, 2002), Indonesian rice exports have not been due to superiority in competition, but because of the excess rice stock and only temporary nature. To avoid damage, the rice is exported abroad and if needed again it will import rice from other countries. Indonesia (especially for rice commodities) seems to be experiencing a very large decline in exports if all countries abolish the total tariff. This fact is also seen in Figure 5 which shows a sharp decline in exports when import tariffs are changed from an 80 percent reduction to 100 percent removal. The impact of negatite on exports that is quite large also occurs in the commodity of wheat which will decrease by 10 percent (Caves, 1993).

Table 2: Impact of Tariff Elimination by WTO Member Countries on Exports (%)

Commodity/Scenario	10%	20%	30%	50%	80%	100%
Paddy	-0,5	-1,38	-2,81	-7,75	-21,14	-467,12
Wheat	-1,07	-2,17	-3,31	-5,68	-9,51	-10,67
Corn	-0,44	-0,89	-1,36	-2,32	-3,6	-3,22
Horti	2,44	5,03	7,75	13,66	23,73	39,3
Soybean	0,33	0,83	1,51	3,55	8,89	17,17
Sugar	3,05	6,09	9,09	14,9	23,75	35,71
Cotton	0,64	1,28	1,92	3,19	4,92	7,88
Livestocks	7,56	16,15	25,92	49,89	101,8	157,09
Milk	2,06	4,28	6,68	12,25	24,78	44,62
OthAgr	-0,2	-0,42	-0,63	-1,04	-1,69	2,54
Forestry	1,54	3,14	4,82	8,43	14,7	19,95
Fishery	0,46	0,95	1,46	2,61	4,83	5,98
Vegetables Oil	5,77	12,1	19,04	34,88	63,33	85,78
Food	0,18	0,37	0,57	0,97	1,59	2,42
Othe Prime Secctor	0,15	0,31	0,47	0,82	1,46	1,54
Manufacture	-0,21	-0,43	-0,69	-1,27	-2,35	-3,47
Services	-0,06	-0,14	-0,22	-0,43	-0,83	-1,26

Source: WTO, 2017; & Ministry of Trade of the Republic of Indonesia, 2018

Among all these commodities, rice commodity is a commodity that will experience the largest export decline of 467 percent. The huge decline in exports shows that this sector is really less competitive than the same commodity from abroad. According to several studies (Erwidodo, 2002), Indonesian rice exports have not been due to superiority in competition, but because of the excess rice stock and only temporary nature. To avoid damage, the rice is exported abroad and if needed again it will import rice from other countries.

The total tariff abolition policy will also have a negative impact on manufacturing and service exports as shown in Table 2. Although the percentage decline in manufacturing and service exports has not exceeded double digits, in total this decline is quite detrimental to Indonesia considering manufacturing exports are Indonesia's mainstay in reaping foreign exchange (Oktaviani, 2000).

4.2. Impact of the Elimination of Tariffs on Imports

Simulation results (Table 3) answer questions about the impact of eliminating trade barriers in the form of eliminating import tariffs by all countries / regions on Indonesian imports. Based on the table, it can be seen that 14 out of 17 Indonesian commodity groups will experience an increase in imports if all countries reduce tariffs that have been in effect. The results of this simulation prove the trading theory which states that tariff elimination will have an impact on increasing imports by countries that abolish these tariffs.

Table 3: Impact of Elimination of Trade Barriers to Imports (%)

Commodities	10%	20%	30%	50%	80%	100%
Paddy	5,8	12,04	18,76	33,91	62,93	65,56
Wheat	0	0	0	0,04	0,16	1,29
Corn	0,06	0,14	0,24	0,52	1,15	2,3
Horticulture	0,86	1,74	2,66	4,63	7,88	10,31
Soybean	0,62	1,3	2,07	3,88	7,38	11
Sugar	3,73	7,67	11,84	20,94	36,79	47,16
Cotton	-0,08	-0,18	-0,27	-0,48	-0,8	-0,61
Livestocks	1,19	2,48	3,88	7,1	13,42	19,39
Milk	0,45	0,92	1,39	2,39	4,02	5,29

OthAgr	1,25	2,55	3,91	6,88	12,08	16,95
Forestry	0,02	0,03	0,03	0	-0,17	-0,7
Fisheries	0,4	0,82	1,24	2,14	3,59	4,44
Vegetable oil	1,02	2,14	3,38	6,31	12,61	19,03
Food	1,2	2,46	3,79	6,68	11,77	16,03
Another Prime Sector	0,12	0,22	0,3	0,41	0,45	0
Manufacture	-0,03	-0,06	-0,09	-0,16	-0,28	-0,51
Services	0,03	0,06	0,1	0,19	0,38	0,38

Source: WTO, 2017; & Ministry of Trade of the Republic of Indonesia, 2018

Although there were several commodities that experienced a decline in imports, the decline was allegedly caused by an increase in domestic demand. Examples of Indonesian commodities whose imports are declining are cotton, forestry, and manufacturing. One factor that is strongly suspected of influencing the decline in imports is because the government promotes the use of domestic production (Hakim, 2004). The increase in imports that occurred in almost all commodities was quite alarming. It is true that on the one hand with a reduction in import tariffs, domestic consumers will be able to buy goods at prices that are relatively cheaper than when they are still subject to import tariffs, but on the other hand a decrease in import tariffs will cause domestic production (for commodities that have been less competitive) decreases (Wijaya, 2000).

This condition will obviously harm domestic producers. When viewed from the simulation results as presented in Table 6, almost all of these commodities are labor-intensive commodities. Therefore, the

increase in imports of most of these commodities is expected to cause a decrease in labor absorption as a result of the decline in domestic production. Thus, tariff reductions actually have an impact on diminishing employment opportunities and even the potential to create unemployment. Based on the above facts, it can be interpreted that the increase in imports does not fully benefit the Indonesian economy (Lee, 2019: Tabatabaei et al, 2014).

5. CONCLUSION

Based on the previous discussion, it was found that Indonesia's status and position map in the context of world trade shows that in most of the trade balance per commodity, Indonesia is a net importer. The implementation of the tariff elimination policy will reduce most of Indonesia's exports both for agricultural commodities and manufacturing commodities. Although the policy does not reduce all exports of all commodities, the decline in exports in some strategic commodities tends to hurt Indonesia. Although the policy does not increase the import of all commodities, the increase in imports that will occur in some commodities will tend to harm Indonesia. On the other hand, the implementation of tariff elimination policy will cause the trade balance for some commodities to experience deficits, especially for some strategic commodities in the agricultural sector, and overall manufacturing. This means that the policy worsens Indonesia's trade balance.

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UNIVERSIDAD DEL ZULIA

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Revista de Ciencias Humanas y Sociales
Año 35, Especial N° 21, (2019)

Esta revista fue editada en formato digital por el personal de la Oficina de Publicaciones Científicas de la Facultad Experimental de Ciencias, Universidad del Zulia.
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