

IMPACT OF REDUCED TARIFF RATE UNDER FTA SCHEME ON IMPORT QUALITY UPGRADING

Lilis Nurul Husna¹
Fithra Faisal Hastiadi²

¹ BPS-Statistics Indonesia

² Faculty of Economics and Business, University of Indonesia, Indonesia

Email: lilishusna@gmail.com
Email: fithra_faisal@yahoo.com

ARTICLE INFORMATION

Received date
[07-22-2022]

Revision
[11-24-2022]

Accepted date
[12-15-2022]

ABSTRACT:

The good quality of imported goods as input production is needed to produce quality goods. This paper examines the impact of reduced tariffs under FTA scheme on the quality of imported inputs in the Indonesian Automotive Industry in 2015-2019. Quality is measured by the unit value approach. Using data from Customs declaration documents, this paper captures the impact of tariffs on the quality of imported products using the Difference-in-Difference (DiD) method. The result shows that the reduction in tariffs does not have a significant impact on improving the quality of imported products. Most of Indonesia's automotive exports are dominated by less developed countries. Thus, producers do not take advantage of the reduction in tariffs to improve the quality of imported products to adapt purchasing power in the export market. They focus more on productivity to produce cheaper goods so that export products become more competitive in the export market in terms of price.

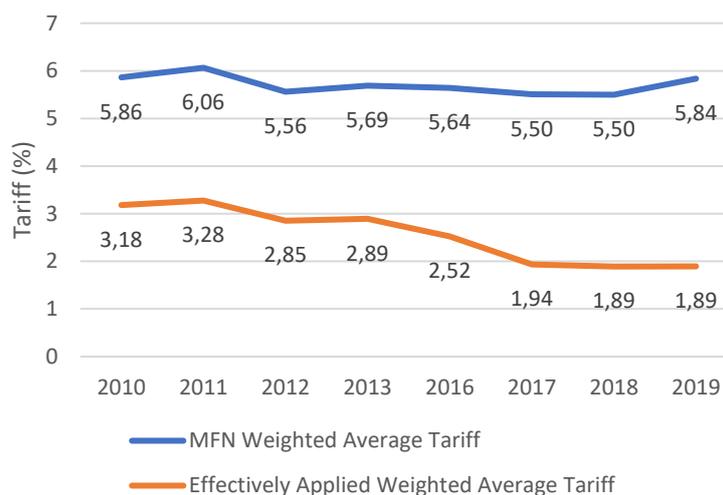
Keywords: FTA, Tariff, Quality

1. INTRODUCTION

Trade liberalization is an interesting topic because imported goods have at least two different roles for domestic producers. First, imported goods can be used as input production for domestic enterprises so that firms can improve productivity. Cheaper imported inputs can raise productivity via learning, variety, and quality effects (Amiti & Konings, 2007). Second, imported goods induced competition with domestic products so that domestic companies will innovate in order to compete with imported products. Aghion et al. (2005) and Aghion et al. (2009) showed that the relationship between competition and innovation depends on the distance of the product to the world technology frontier. For firms far from the technology frontier, an increase in competition reduces incentives to innovate because ex post rents from innovation are eroded by new entrants. However, as firms approach the frontier, competition will increase incentives to innovate because it reduces firms' pre-innovation rents by more than it reduces their post-innovation rents.

In the last decade, trade liberalization through tariff was greater caused by preferential tariffs under the Free Trade Agreement (FTA) scheme. Figure 1 shows that the difference between MFN tariffs and effective tariffs (a combination of MFN and preferential tariff rate) of intermediate goods in Indonesia has grown, where the average MFN tariff tends to be stable, while the average effective tariff is decreasing. It indicates the decreasing of preferential tariff rates.

Figure 1. Tariff of intermediate goods in Indonesia¹



Source: *World Integrated Trade Statistics (WITS)*

¹ Data unavailable for the years 2014 and 2015

In 2019 there are eight FTA in force, namely, ASEAN Trade in Goods Agreement (ATIGA), ASEAN-China Free Trade Area (ACFTA), ASEAN-Korea Free Trade Area (AKFTA), Indonesia-Japan Economic Partnership Agreement (IJEPA), ASEAN-India Free Trade Area (AIFTA), ASEAN-Australia-New Zealand Free Trade Area (AANZFTA), and the Indonesia-Chile Comprehensive Economic Partnership Agreement (IC-CEPA). The utilization of FTA presents both opportunities and challenges for Indonesia. Indonesia has wider access to get better (cheaper, better quality, and more variation) input production and wider market to sell export product, especially with FTA member countries. Nevertheless, domestic product must be able to compete with similar products produced by other countries.

The quality is an important thing because the production of high quality goods is often seen as a prerequisite for exports success and economic development (Amiti & Khandelwal, 2013). Previous study confirmed that firms in high income countries produce and export higher-quality goods than those in less-developed countries (Hallak, 2006; Schott, 2004). Good quality input is needed to produce good quality output. Research on the quality of imported goods is important because imported goods are sources of input production.

Previous literature has examined the relationship between FTA and imported goods, most of them conclude about trade creation and trade diversion. Clausing (2001) studied the impact of tariff liberalization on the Canada-United State Free Trade Agreement (USFTA) and the results showed that the reduction in tariffs significantly increased US imports from Canada. Tariffs reduction didn't decrease imports from the rest of the world significantly. Thus, the USFTA create trade creation for US without any trade diversion. Aswad & Azijah (2021) studied the effect of the ASEAN-China Free Trade Agreement (ACFTA) on imports of telephones from China to ASEAN. Using the gravity model, the results showed that the ACFTA has no significant effect on imports of ASEAN telephones originating from China.

Research about the impact of reducing input tariffs on product quality has been studied in several studies. Amiti & Khandelwal (2013) used export data to the United States from 56 countries, the results showed that reducing tariffs can improve product quality for products that are close to the world quality frontier, while reducing tariffs is associated with decreasing upgrading quality for products that are far from the frontier. In Indonesia, Hayakawa et al., (2017) examined the impact of tariffs on the production quality of the Textile Industry, the results showed that only input tariffs had a significant effect on improving product quality while output tariffs had no significant effect. These two researches focus on the impact of tariffs on output production. Our study is close to Bas & Strauss-Kahn (2015) that examined the impact of tariff on import quality in China. Bas & Strauss-Kahn (2015) examine the decrease

of MFN tariffs but in the last decade, more tariff changes have been caused by trade agreements, so an analysis using MFN tariffs is less able to describe current conditions and can provide misleading results (Ahn et al., 2019).

Based on this background, this study aims to examine the impact of tariff reductions under FTA scheme on import quality. It will focus on the automotive sector, especially the Motor vehicle, trailer, and semitrailer Industries (KBLI group 29). The automotive industry is one of the five industrial sectors that receive development priorities in the *Making Indonesia 4.0* roadmap. In addition, intermediate goods in the automotive sector are one of the intensive sectors in interstate trade in East Asia (Kimura & Ando, 2005). Thus, improving imported intermediate inputs is expected to improve export goods in the automotive sector.

2. LITERATURE REVIEW

Global Production Network (GPN)

Global Production Network can be defined as the interconnected relationship of functions and operations in which goods and services are produced, distributed, and consumed (Henderson et al., 2002). Almost all countries in the world participate in GPN but the level of involvement varies. A country's participation in GPN can be seen through backward and forward participation. Higher forward participation compared to backward participation indicates that an economy is more involved in activities in the upstream sector. Conversely, if backward participation is higher than forward participation, it implies that a country's economic activity is more in the downstream sector (Asian Development Bank & Islamic Development Bank, 2019). The increase in backward participation of a country indicates that the country is more active in using imported inputs in the production of export goods. If the imported inputs are of high quality, the increase in backward participation can improve the quality of export products. Sectoral analysis of the Asian Development Bank & Islamic Development Bank (2019) shows that Indonesia's manufacturing industry used intermediate inputs from imports and accounts for the highest share in total exports of intermediate goods in manufactured products. This shows that import inputs are used in the production process of export goods.

Tariffs and Free Trade Agreement

Import duty tariffs is one of international trade policy instrument. This instrument is used to protect domestic production. The import duty tariff mechanism is by adding import tax costs to the price of imported goods so that the final price of imported goods becomes more expensive. The addition of these tariffs is intended so that the price of imported goods at least approaches the domestic equilibrium price so that it does not interfere with the supply of

domestic products. The other impact of import duty tariffs is a reduction in imported goods, as well as a reduction in the supply of goods in exporting countries. With the increase in the price of goods, the domestic demand for imported goods decreases. If the volume of goods subject to the tariff is not large enough to dominate the international market, then the price increase above the international equilibrium does not necessarily change the international equilibrium, but instead forces the production of the exporting country to decrease.

In recent decades, trade liberalization has moved from a multilateral agreement to a preferential agreement. The reduction in MFN tariffs did occur as a commitment to the World Trade Organization (WTO) but the decline was not too significant (Hayakawa et al., 2019). As a result, many countries initiated various forms of Free Trade Agreements (FTAs) both regionally and bilaterally. The signing of an FTA by a country is generally motivated by various motives, including those related to economic aspects. Based on ADB (2008) these motives are gains from trade; static effect; economies of scale; and technology and Foreign Direct Investment (FDI) transfers.

FTA is an agreement between countries to eliminate trade barriers in the form of tariffs and non-tariffs in order to improve mutual welfare. The FTA applies preferential tariffs between members. Preferential tariffs are import duty tariffs based on international agreements, the amount of which in Indonesia is stipulated in the Regulation of the Minister of Finance regarding the determination of import duty tariffs based on international agreements. To be able to use these tariff provisions, imported goods must comply with the rule of origin (RoO) provisions, namely in the form of provisions regarding the origin of goods and the level of domestic content of a product. If it does not meet the RoO requirements, then the goods are subject to MFN tariffs.

FTA provides consequences in the form of trade creation and trade diversion. Trade creation is the emergence of new trade due to the choice of member countries to import goods from other member countries that can produce more efficiently, while these countries stop their domestic production. Trade diversion is the diversion of trade that originally occurred between member countries and countries outside the members, to become more efficient trade between member countries.

Product Quality

High-quality products tend to have a high price because of imperfect information. Companies that produce high-quality products need to give signals in the form of high prices to convey a message to consumers about the quality of their products (Akerlof, 1978). Various previous studies used the unit value as a proxy for product quality (Baldwin & Harrigan, 2011;

Bas & Strauss-Kahn, 2015; Fernandes & Paunov, 2013; Hallak, 2006; Johnson, 2012; Schott, 2004). The unit value is measured by dividing the value of import transactions by their quantity.

Khandelwal (2010) criticizes that price cannot be directly used as a measure of quality because price also reflects variations in production costs. With the same price, a product that has a higher market share means it has a higher quality so that quality measurements should not only involve price but also market share which is formulated in the form of a *Berry Type Demand Function*. Amiti & Khandelwal (2013) using export data to the United States from 56 countries using quality measures from (Khandelwal, 2010) found that reducing tariffs can improve product quality that is close to the world quality frontier, while reducing tariffs inhibits improving quality for products that are far away from frontiers. These results are robust with the use of the unit values as a proxy for quality. In contrast, Bas & Strauss-Kahn (2015) using the unit value as a measure of the quality of China's export products found that a reduction in tariffs could improve the quality of export goods if most of the imported goods came from developed countries and this result is robust with quality measurements using the Khandelwal (2010) method. Thus, apart from being easy to calculate, the unit value is a good proxy for the product quality.

The use of the unit value as a proxy for quality cannot be used for all commodities. Khandelwal (2010) found that unit values are very suitable for industries with a wide range of quality differences or are called 'long' quality ladders but are not suitable for products that have a 'short' quality ladder. A product is included in the long quality ladder if there is a large difference between the highest quality and the lowest quality so that the company that produces this product has the opportunity to improve its quality. The results of Khandelwal's research (2010) also show that the size of the quality ladder is positively correlated with industrial capital intensity and productivity. In Indonesia, the automotive industry is an industry that is classified as capital intensive (Setyari et al., 2015) so that unit value can be used as a good proxy for the quality of Indonesian automotive products. Therefore, this study uses the unit value as a measure of quality. Increase in the unit value indicates the improvement in quality.

Based on the literature review that has been explained earlier, this study suspects that the reduction in FTA tariffs will encourage firms to increase the quality of imported inputs. This is because production costs have fallen due to reduced tariffs, so entrepreneurs have the opportunity to improve the quality of their products

3. RESEARCH METHODS

Research Coverage

This research focuses on the automotive sector covered by KBLI 2015 Group 29 in Indonesia for year 2015 to 2019. In 2019 there are eight FTA in force, namely, ATIGA, ACFTA, AKFTA, IJEPa, AIFTA, AANZFTA, IPPTA, and IC-CEPA but we eliminated IPPTA dan IC-CEPA because these two agreements do not cover automotive sector. Thus, this study covered import transactions from 15 countries, namely ASEAN countries (Malaysia, Singapore, Thailand, Vietnam, Myanmar, Laos, Cambodia, Philippines, and Brunei Darussalam), China, Japan, South Korea, India, Australia, and New Zealand. We chose commodity that belong to the intermediate inputs following *the Broad Economic Category (BEC) Rev.4²*. and has been covered on the international agreements. We also limit to firm that doing export and import simultaneously in a year so that imported goods are expected to be used as inputs for the production of exported goods

Data Sources

This study used data on export and import transactions in 2015-2019 from the import Customs declaration documents (PIB) and the export Customs declaration documents (PEB) from the Directorate General of Customs and Excise, processed by BPS-Statistics Indonesia. The documents include firm identity, year, value (US\$), weight (kg), the harmonized system (HS) code, country of origin, and import facilities. This study also used several concordance tables, namely the 2012 and 2017 HS concordats to obtain 8-digit HS from 10-digit HS for 2015 and 2016 data and the BEC and HS concordats to obtain import inputs belonging to the intermediate inputs. Exports data, import data, and concordats tables were obtained from BPS (*unpublished*). This study also used data from the *World Integrated Trade Statistics (WITS)* website, includes tariffs imposed by Indonesia on trading partner countries through both FTA and MFN schemes.

Data Processing

Data processing begins with choosing imports that belong to the intermediate inputs and come from 15 countries including Malaysia, Singapore, Thailand, Vietnam, Cambodia, Laos, Brunei Darussalam, Myanmar, the Philippines, Japan, China, South Korea, India,

² The BEC classification has been widely used in the literature of international trade to identify intermediate inputs, include Amity et al., (2014), Bøler et al., (2012), and Brandt et al., (2012)

Australia, and New Zealand. Then, we matched imports data according to HS and country of origin with WITS data to select possible transactions to be carried out with the FTA mechanism. Commodities (HS) that are not included in the trade agreement are excluded. Furthermore, firm identity *matching* is carried out between exporters and importers to get firm that doing export and import simultaneously in a year. The details of the facilities contained in the PIB document are the basis for grouping *treatment* and *control groups*. The treatment group consists of companies that doing exports and import activities and have utilized FTA facilities for imports, while the control group consists of companies that doing exports and imports activities without utilizing FTA facilities.

Model Specifications

Difference-in-difference (DID) is often used in policy analysis in the context of natural experiments or quasi-experiments. Both of these contexts occur when some observations are exposed by a policy while others are not. The group exposed to the policy is called the treatment group while the group that is not exposed is called the control group. In this study the treatment group is a company that utilizes FTA facilities, while the control group is a company that does not utilize FTA facilities when importing goods. The treatment and control groups in this study were identified through the FTA_i variable. FTA_i has a value of one for the treatment group and 0 for the control group. The policy to be scaled is the tariff reduction captured in the variable $\tau_{k,t}$. If $\tau_{k,t}$ is the tariff that maintains commodity k in year t , then the quality difference in the effect of changes in tariffs t and $t-1$ is for companies that use FTA compared to companies that do not use FTA, or also known as the *average treatment effect*, in the equation (1) can be captured through the coefficient β_3 .

To see the impact of reduced tariffs on import, this study uses the DiD by implementing and modifying models referring to Bas & Strauss-Kahn (2015)³:

$$P_{ikct}^M = \beta_1 \tau_{k,t-1} + \beta_2 FTA_i + \beta_3 FTA_i * \tau_{k,t-1} + \beta_4 Size_{i,t0} * \alpha_t + \alpha_{ik} + \alpha_{ct} + \varepsilon_{ikct} \quad (1)$$

Description:

- P_{ikct}^M is the unit value import according to the company (i), commodities (k), and country (c) in each year (t) in the form of a natural logarithm. The unit value is measured by dividing the value of import transactions by their quantity.
- FTA_i is a *dummy variable* that distinguishes between a *control group* and a *treatment group*.

This variable is worth 1 (one) if there is at least one import transaction of a company in one

³ This is not a traditional difference-in-difference estimation as the treatment (i.e., the decrease in input tariffs) affects the treated group over time (Bas & Strauss-Kahn, 2015)

year under FTA scheme and is worth 0 (zero) if there is no transaction of a company in one year under FTA scheme.

- $\tau_{k,t-1}$ represents the average tariff on imports of intermediate goods commodity k year $t-1$. There are six trade agreements containing automotive commodities, namely ATIGA, AKFTA, ACFTA, IJEP, AIFTA, and AANZ so that $\tau_{k,t}$ is obtained from the average tariff of six agreements each year. If there is a commodity (HS) that are not included in one of the trade agreements, the MFN tariff is used. For example, in 2019 HS 84073499 was included in the ATIGA, AKFTA, ACFTA, IJEP, AANZ agreements with a 5% tariff but not included in the AIFTA agreement so that imports from India use the MFN tariff of 10%. Thus obtained $\tau_{84073499,2019} = (5 + 5 + 5 + 5 + 5 + 10)/6$, which is 5.83%.
- $Size_{i,t0}$ is the number of variations in imported products in the form of a combination of HS and the country (Bas & Strauss-Kahn, 2014) in the first year of being an observation unit. Suppose that company A imports HS 84073499 from Thailand and Vietnam then it counts as two variations. $Size_{i,t0} * \alpha_t$ is an *initial firm size trend* that represents the company's initial performance. This variable controls the size and growth of the company in the initial period into observation.
- α_{ik} is the *firm-product fixed effect*. This variable captures the variation of imported commodities between companies. This fixed effect reduces the potential for bias in parameter estimation due to differences in imported products between companies.
- α_{ct} is the *country-year fixed effect*. This variable captures the characteristics of the country of origin of imports which change every year, such as GDP, inflation and exchange rates.
- ε_{ikct} is an *error* (independent and identically distributed).

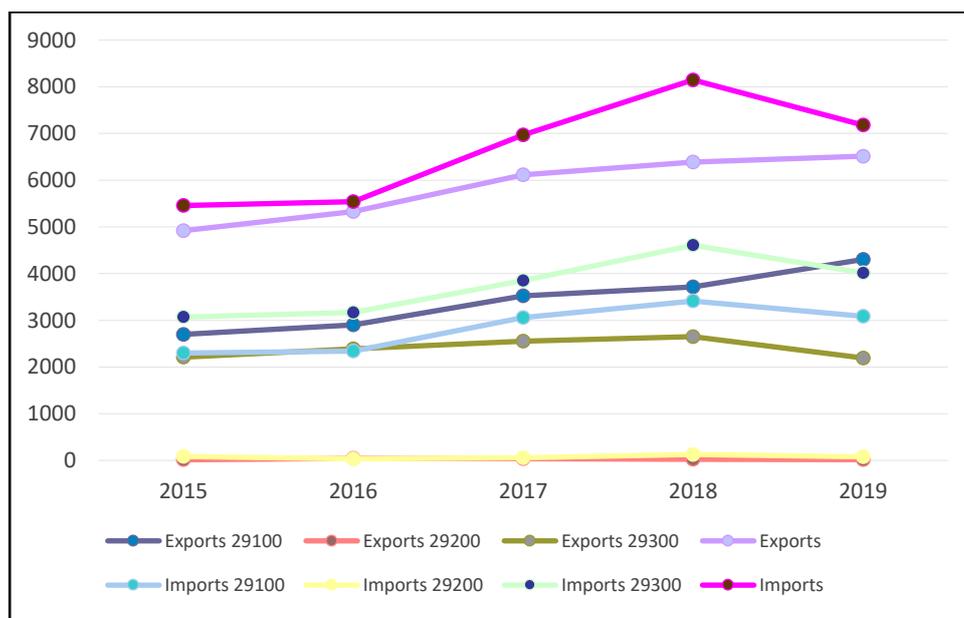
Observations in panel data involve at least two dimensions; cross-section dimensions, (usually indicated by subscript i), and time series dimensions (usually indicated by subscript t). Nonetheless, the emergence of large-scale administrative data has made linear models with more than one fixed effect (multi-way fixed effects) common in various analyses, as in this study fixed effects consist of i (company), c (country), and k (commodity/HS). Incorporating multi-way fixed effects allows researchers to control the specific unobserved heterogeneity of each individual/group to reduce causal inference errors due to the omitted variable bias. However, with the traditional approach, which is to apply within transformation to multiway fixed effects and add one dummy for each category of all fixed effects (Wooldridge, 2016), it is not feasible if it is done for fixed effects with many categories (Correia, 2016). In this study, parameter estimation was carried out using the method used by Correia (2016). One of the

problems that exist in estimation with multi-way fixed effect is the existence of singleton groups, which are groups that contain only one observation. Keeping a singleton group makes the computational process inefficient and makes the significance of regression coefficients overestimating (Correia, 2015). Therefore, in this study, the existence of a singleton group was not included in the regression model.

4. ANALYSIS AND DISCUSSION

Indonesia's automotive sector continues to grow from year to year with an average growth of 11.23% per year (2010-2019). This sector consists of three groups, namely the Four-wheeled motor vehicle industry or more (KBLI 29100), the four-wheeled motor vehicle body industry or more and the trailer and semitrailer industry (KBLI 29200), and the four-wheeled motor vehicle parts and accessories industry or more (KBLI 29300). In general, this sector experienced a trade balance deficit, especially in the Industrial group of spare parts and accessories of the four-wheeled motor vehicles or more. Meanwhile, the Industrial group of four-wheeled motor vehicles or more experienced a surplus (Figure 2). The trend of imports and exports is running in the same direction except in 2019 when imports decreased while exports increased. This happened due to an increase in exports in the four-wheeled motor vehicle industry group or more (KBLI 29100) especially HS 8703 (others cars and motor vehicles are mainly designed for the transportation of people a maximum of 9 people).

Figure 2. Export and Import in Automotive Industry (Million US\$)

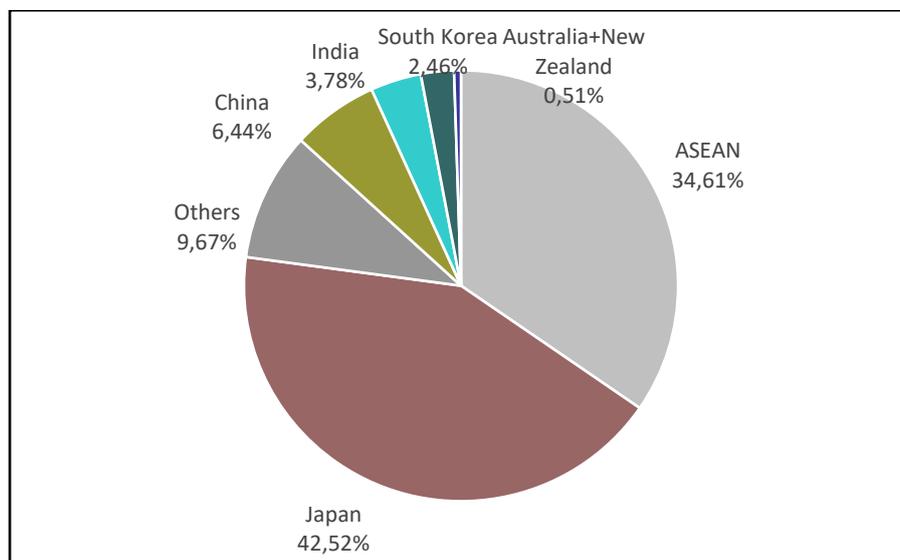


Source: BPS-Statistics Indonesia (*Authors calculation*)

Imports in Automotive Industry mostly came from Japan (42.52%) with the main

commodities from HS 8708 (motor vehicle parts and accessories) at 50.48%, HS 9801 (motor vehicles in an incompletely uncovered state) at 22.95%, and HS 8703 (other cars and motor vehicles mainly designed for the transportation of people a maximum of 9 people) by 19.08%. ASEAN is the second source of imports for the Indonesian automotive industry with a *share of* 34.61%. In more detail, ASEAN imports are dominated by imports from Thailand. Imported commodities from Thailand in the form of HS 8708 (motor vehicle parts and accessories) amounted to 41.91%; HS 8703 (cars and other motor vehicles are mainly designed for the transportation of a maximum of 9 people) at 19.59% and HS 8704 (motor vehicles for the transportation of goods) at 15.12%

Figure 3. Imports in Automotive Industry (Million US\$)



Source: BPS-Statistics Indonesia (*Authors calculation*)

This study divided the observation units into two groups, namely the treatment group consisting of companies that utilize FTAs and the control group consisting of companies that do not take advantage of FTAs. The number of companies included in the treatment group is greater than the control group. The number of companies used in this study in detail is in table 1.

Table 1. Number of observation units by company⁴

Company Type (1)	2016 (2)	2017 (3)	2018 (4)	2019 (5)
Non-FTA	100	115	115	107
FTA	97	120	142	138
Total	197	235	257	245

⁴ This study excluded the 2015 observations due to the unavailability of 2014 preferential tariff data

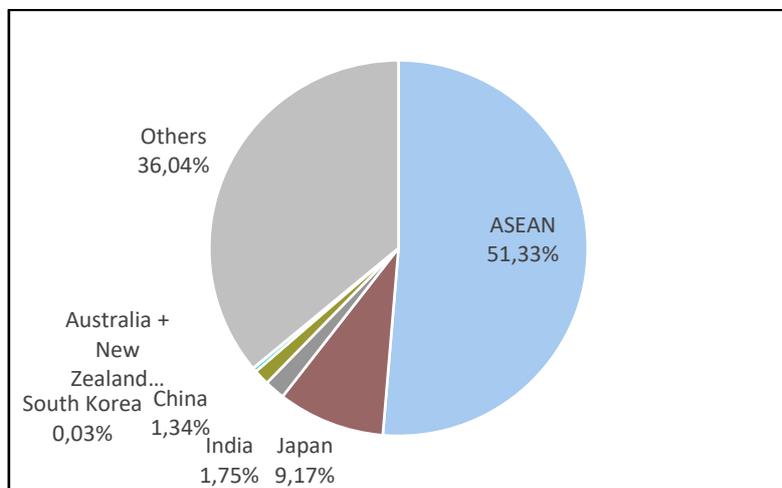
Table 2. Impact FTA on the Unit Value Imports

Variable (1)	Unit Value (P_{ikct}^M) (2)
Tarifk ($\tau_{k,t-1}$)	0,0065 (0,0274)
FTAi*Tarifk ($FTA_i * \tau_{k,t-1}$)	-0,0104 (0,0280)
Observation	9.910
R-square	0,6302

Description: the number inside the parentheses indicates a robust standard error. All equations contain the initial firm size trend, the firm-product fix effect, and the country year fix effect.

The company improves the quality of export products by improving the quality of intermediate inputs. A decrease in tariffs will increase the price of imported inputs if the company improves the quality of its inputs. To see the impact of reducing tariffs on improving the quality of imported inputs, this study uses equations (1). Stata software used to estimate parameters excludes FTA variables from the model because it experiences collinearity with *firm product fix-effect*. The estimates in Table 2 show that the reduction in tariffs through FTAs does not impact on improvement of the quality of imported goods significantly. Hallak (2006) finds that demand for quality is related to importers' income per capita. More than 50% of Indonesia's automotive exports are dominated by ASEAN (Figure 3), especially to Philippines and Thailand. Thus, producers do not take advantage of the reduction in tariffs to improve the quality of imported products to adapt with purchasing power in the export market. They focus more on productivity to produce cheaper goods so that export products become more competitive in the export market in terms of price.

Figure 4. Exports in Automotive Industry (Million US\$)



Source: BPS-Statistics Indonesia (*Authors calculation*)

The increase in the intensity of imported goods used in the production process of export goods can be shown by an increase in *backward participation*. This study does not calculate the value of *backward participation* in the automotive sector but the Asian Development Bank & Islamic Development Bank (2019) found that Indonesia's participation in the *Global Value Chain (GVC)* has decreased since 2014 and the decline was due to a decrease in the *backward participation index*. This has happened since the planning and enactment of Government Regulation⁵ concerning National Industrial Development Master Plan (RIPIN) of 2015-2035 emphasizes the importance of using domestic products. In the regulation, the government wants to develop upstream industries and intermediate industries based on natural resources. The national industrial development master plan is divided into three stages, namely, phase I (2015-2019) increasing the added value of natural resources; phase II (2020-2024) focuses on competitive advantage and environmentally sound; phase III (2025-2035) becomes a resilient industrial country.

Indonesia is more actively involved in upstream production as indicated by higher *forward participation* than *backward participation* (Asian Development Bank & Islamic Development Bank, 2019). This implies that in the aggregate, *Indonesia's intermediate goods* exports contain greater domestic added value than the added value derived from imports. The results of the OECD calculations processed by Ingot & Verico (2020) also show that among ASEAN 6 countries, Indonesia is the most superior in *forward participation* but the most behind in *backward participation*.

5. CONCLUSION

The dynamics of international trade have changed from multilateral to bilateral and regional negotiations, and Indonesia is no exception. The trade agreement has consequences for Indonesia to further lower trade barriers. The lower the preferential tariffs raise important questions about their impact on improving the quality of imported goods. This study aims to examine the impact of tariff reductions under FTA scheme on improving the quality of imported goods with a focus on companies in the automotive industry sector (KBLI 29). The result show that tariff reduction under FTA scheme does not impact on improving the quality of imported goods significantly. Most of Indonesia's automotive exports are dominated by less developed countries. Thus, producers do not take advantage of the reduction in tariffs to improve the quality of imported products to adapt with purchasing power in the export market.

⁵ <https://peraturan.bpk.go.id/Home/Details/5577/pp-n0-14-tahun-2015> Accessed on 29 May 2022

They focus more on productivity to produce cheaper goods so that export products become more competitive in the export market in terms of price.

6. LIMITATIONS AND SUGGESTIONS.

This research is not without limitations. This research has not been able to separate imported inputs which are actually used in the production process of exported goods, so caution is needed in interpreting the impact of changes in tariffs. However, by limiting the unit of observation to exporting companies, the estimation results can still be used to explain the impact of reduced tariffs on the quality of imported goods.

REFERENCES

- ADB. (2008). How to Design, Negotiate, and Implement a Free Trade Agreement in ASIA. In *Chemical & Engineering News Archive* (Vol. 71, Issue 47). <https://doi.org/10.1021/cen-v071n047.p004>
- Aghion, P., Bloom, N., Blundell, R., Griffith, R., & Howitt, P. (2005). Competition and innovation: an inverted-u relationship* p. *Quarterly Journal of Economics*, May, 701–728.
- Aghion, P., Blundell, R., Griffith, R., Howitt, P., & Prantl, S. (2009). Productivity gains by specialist nurses. *Review of Economic Studies*, 91(1), 20–32.
- Ahn, J. Bin, Dabla-Norris, E., Duval, R., Hu, B., & Njie, L. (2019). Reassessing the productivity gains from trade liberalization. *Review of International Economics*, 27(1), 130–154. <https://doi.org/10.1111/roie.12364>
- Akerlof, G. A. (1978). The market for “lemons”: quality uncertainty and the market mechanism. In *Uncertainty in Economics* (Vol. 84). ACADEMIC PRESS, INC. <https://doi.org/10.1016/b978-0-12-214850-7.50022-x>
- Amiti, M., Itskhoki, O., & Konings, J. (2014). Importers, exporters, and exchange rate disconnect. *American Economic Review*, 104(7), 1942–1978. <https://doi.org/10.1257/aer.104.7.1942>
- Amiti, M., & Khandelwal, A. K. (2013). Import Competition and Quality Upgrading. *NBER Working Paper Series*. <http://www.nber.org/papers/w15503>
- Asian Development Bank, & Islamic Development Bank. (2019). The Evolution of Indonesia’s Participation in Global Value Chains. In *IMF Working Papers* (Vol. 19, Issue 18). The Asian Development Bank. <https://www.adb.org/sites/default/files/publication/534851/evolution-indonesia-participation-global-value-chains.pdf>
- Aswad, H., & Azijah, Z. (2021). Influence of ACFTA (ASEAN-China Free Trade Area) on Imports of Phone Origin China In ASEAN. *Jurnal Ekonomi Dan Kebijakan Pembangunan*, 10(2), 154–175. <https://doi.org/10.29244/jekp.10.2.2021.154-175>
- Baldwin, R., & Harrigan, J. (2011). Zeros, quality, and space: Trade theory and trade evidence. *American Economic Journal: Microeconomics*, 3(2), 60–88. <https://doi.org/10.1257/mic.3.2.60>
- Bas, M., & Strauss-Kahn, V. (2015). Input-trade liberalization, export prices, and quality upgrading. *Journal of International Economics*, 95(2), 250–262. <https://doi.org/10.1016/J.JINTECO.2014.12.005>
- Bøler, E. A., Moxnes, A., & Ulltveit-Moe, K.-H. (2012). Technological Change, Trade in

- Intermediates and the Joint Impact on Productivity. *CEPR Discussion Papers*, March. <http://ideas.repec.org/p/cpr/ceprdp/8884.html>
- Brandt, L., Van Biesebroeck, J., Wang, L., & Zhang, Y. (2012). WTO accession and performance of Chinese manufacturing firms: Corrigendum. *American Economic Review*, 109(4), 1616–1621. <https://doi.org/10.1257/aer.109.4.1616>
- Clausing, K. A. (2001). Trade creation and trade diversion in the Canada - United States Free Trade Agreement. *Canadian Journal of Economics*, 34(3), 677–696. <https://doi.org/10.1111/0008-4085.00094>
- Correia, S. (2015). Singletons, Cluster-Robust Standard Errors, and Fixed Effects: A Bad Mix. *Unpublished Working Paper*, November, 1–5.
- Correia, S. (2016). A Feasible Estimator for Linear Models with Multi-Way Fixed Effects. *Working Paper*, March. <http://scoreiria.com/research/hdfe.pdf>
- Fernandes, A. M., & Paunov, C. (2013). *Does trade stimulate product quality upgrading?* Published by: Wiley on behalf of the Canadian Economics Association *Does trade stimulate product quality upgrading?* 46(4), 1232–1264. <https://www.jstor.org/stable/42705921>
- Hallak, J. C. (2006). Product quality and the direction of trade. *Journal of International Economics*, 68(1), 238–265. <https://doi.org/10.1016/j.jinteco.2005.04.001>
- Hayakawa, K., Laksanapanyakul, N., Mukunoki, H., & Urata, S. (2019). Impact of Free Trade Agreement Use on Import Prices. *World Bank Economic Review*, 33(3), 643–660. <https://doi.org/10.1093/wber/lhx026>
- Hayakawa, K., Matsuura, T., & Takii, S. (2017). Does Trade Liberalization Boost Quality Upgrading? Evidence From Indonesian Plant-Product-Level Data. *Developing Economies*, 55(3), 171–188. <https://doi.org/10.1111/deve.12135>
- Henderson, J., Dicken, P., Hess, M., Coe, N., & Wai-Chung Yeung, H. (2002). Global production networks and the analysis of economic development. In *Review of International Political Economy* (Vol. 9, Issue 3). <https://doi.org/10.1080/09692290210150842>
- Ingot, S. R., & Verico, K. (2020). Cendekia Niaga Journal of Trade Development and Studies Global Value Chains (GVC) Pada Komoditi Primer Dan Manufaktur : Studi ASEAN 6 Abstrak. *Cendekia Niaga Journal of Trade Development and Studies*, 5(1), 44–59.
- Johnson, R. C. (2012). Trade and prices with heterogeneous firms. *Journal of International Economics*, 86(1), 43–56. <https://doi.org/10.1016/j.jinteco.2011.09.004>
- Khandelwal, A. (2010). The Long and Short (of) Quali Ladders. In *Review of Economic Studies* (Vol. 77, Issue 4). <https://doi.org/10.3386/w15178>
- Kimura, F., & Ando, M. (2005). Two-dimensional fragmentation in East Asia: Conceptual framework and empirics. *International Review of Economics and Finance*, 14(3 SPEC. ISS.), 317–348. <https://doi.org/10.1016/j.iref.2004.12.005>
- Schott, P. K. (2004). Across-product versus within-product specialization in international trade. *Quarterly Journal of Economics*, 119(2), 647–678. <https://doi.org/10.1162/0033553041382201>
- Setyari, N. P. W., Widodo, T., & Purnawan, M. E. (2015). Industrial Capital Intensity and Comparative Advantages Dynamism of Indonesian Export Products. *Jurnal Ekonomi Pembangunan: Kajian Masalah Ekonomi Dan Pembangunan*, 16(2), 107. <https://doi.org/10.23917/jep.v16i2.1455>
- Wooldridge, J. M. (2016). Introductory Econometrics 6th Edition. In *Economica* (Vol. 42, Issue 165).