

RESEARCH ARTICLE

The Economic Effects of Free Trading Policies Within an Integrated Economy Between Philippines and the Asean-6 Member States

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ABSTRACT

The analysis of the effects that free trade has within the context of the Philippines and its fellow co-members within the Association of Southeast Asian Nations was purposed as a conduit for greater insight on trade relations between the nations of what is being considered as a fast-growing unified economy. In a more specific lens, the paper identifies how the Philippines and its fellow nations within the bloc conduct free trade while also carefully examining the number of goods that are being imported and exported. The study will use a Quantitative research design to find the changes in exports and imports as well as to point out the association between the dependent and independent variables. The study also determines the effect of trade policy. The research is a cross-country study exclusive to ASEAN-6, namely Brunei, Indonesia, Malaysia, Singapore, Thailand and the Philippines, and the period of the study is from the year 1993 – 2015. The researchers used Ordinary Least Squares and showed a high degree of predictability between the dependent and independent variables. The findings confirm that there exists a significant degree of negative correlation between the import and inflation, tariff and FDI. On the other hand, there is a significant positive correlation between the FDI and import of 4 ASEAN countries, namely Brunei, Singapore, Thailand, and Indonesia, besides a negative correlation between FDI and import of Malaysia. While the tariff and inflation of the Philippines and imports come up with a negative relationship, so this brings us to the conclusion that the independent variables are affected by the policy of free trade but for the good of the economies of the countries involved. With the result of the study, it is expected that further examination of this topic will expound more as the zeitgeist affecting the ASEAN bloc continues to tentatively change. The policymakers should build an inclusive and sustainable trading system by identifying priorities for improvement and clarifying the design of new trade rules. The policy-makers should also come up with indicators, trade facilitation performance of different countries, information on the level of trade in services restrictiveness, and also records on export restrictions.

KEYWORDS

Free trade, Trade policy, Import, Export

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1. Introduction

Free Trade is a trade policy by which the government does not implement restrictions on both imports and exports. In a free trade agreement, two or more nations reduce the walls that seek to restrict global commerce and accelerate the economy in both developed and developing countries. Because of this policy, goods can be purchased and sold in other countries with either little or no government interventions, including tariffs, quotas or prohibitions to restrain exchange.

The majority of ASEAN-6 countries are agricultural producers except for Singapore and Brunei. Singapore's top three export commodities are machinery and transport equipment, chemicals and chemical products, and electronics and telecommunication products and technological products. Trading Economics cited that almost 90% of Brunei's export products are Oil and natural gas. The South-East Asian bloc currently has a policy regarding Free Trade. This agreement mandates the signatories put into law and implement progressive policies that the organization considers beneficial for all parties involved. With the ASEAN Free Trade Agreement (AFTA), there is a greater possibility that the unified region will become the fourth-largest economy within ten years

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from now. The organization stated that the economic achievement would be driven by major factors such as strong demographic trends, which indicate that 65% of the ASEAN population will be classified as middle-class, increasing foreign investment, expanding income levels, and technology advances. Aside from this, there is a movement that calls for manufacturing operations to be established in the low-cost regions in Indonesia and Malaysia. It opens the door to several opportunities for foreign investors through prioritizing Singapore being the region's financial hub or placing manufacturing services to low-cost regions in Indonesia and Malaysia. The network proposes a number of benefits in International businesses such as reduced importer costs, increased access to better products and giving a big advantage over others and improved custom clearances. The agreement also proposed numerous tax and fiscal benefits such as tax holidays and deductions. Amidst these beneficial effects of AFTA, there are also some negative impacts of this in the Philippines. Such is the loss that local producers and small businesses experience to their foreign competitors. It plays a significant part in the economic development of the countries. This could enhance or decline the production of the majority of member states if they could not compete with the products of their neighbouring countries. Because of this agreement, there would be an increase in the supply of a product in the Philippines. Under the law of supply and demand, with no change in demand for the good, the price for that goodwill decreases. Importation of goods from other countries within the bloc also became cheaper, resulting in a struggle on the part of micro, small and medium-sized enterprises (MSMEs) of the Philippines to compete with its fellow partners within the bloc.

This study shall determine the effects of the Free Trading Policy within ASEAN and the impact/effect of this policy on both the Philippines and its partner countries.

Specifically, it aims to answer the following objectives:

- 1. To determine the relationship of Inflation with imports and exports in the ASEAN-6 countries
- 2. To determine the relationship of tariff with imports and exports in the ASEAN-6 countries.
- 3. To determine the relationship of Foreign Direct Investment (FDI) with imports and exports in the ASEAN-6 countries.

This research would provide readers knowledge on the flow of trade and the effect of FDI, exchange rate and tariff in the Philippines' total trade. Furthermore, this research would benefit the following:

- ASEAN Traders This will benefit them by having information on what product sells at a high profit.
- Producers Enhance their market as well as increase the profit. Due to more competition from other ASEAN countries, the producers will adapt and act efficiently to cut the costs of production.
- Investors Both developing and developed countries can compete in the market, and they can engage in importing and exporting without any hindrance coming from tariffs and other barriers to trade.
- Policy Makers- This study will see the socio-economic impact of the free trade agreement wherein the policymakers can give mitigating measures to those negatively affected by this agreement.
- Local Consumers and Producers This study will help support local products. This is by showing what products lose in the competition and what can be done to improve the product.
- Researchers This study can be used as a reference for similar research.

1.1 Hypothesis

Null Hypothesis

H₀₁: There is no significant relationship between Inflation and Export.

H₀₂: There is no significant relationship between Tariff and Export.

H₀₃: There is no significant relationship between FDI and Exports.

Alternative Hypothesis

 H_{a1} : There is a significant relationship between Inflation and Exports. H_{a2} : There is a significant relationship between Tariff and Exports. H_{a3} : There is a significant relationship between FDI and Exports.

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Null Hypothesis

 H_{01} : There is no significant relationship between Inflation and Imports.

 H_{02} : There is no significant relationship between Tariffs and Imports. H_{03} : There is no significant relationship between FDI and Imports.

Alternative Hypothesis

Ha1: There is a significant relationship between Inflation and Imports.

 $H_{a2}\!\!:$ There is a significant relationship between Tariffs and Imports.

 $H_{a3}\!\!:$ There is a significant relationship between FDI and Imports.

2. Literature Review

As Milton Friedman explained back in the 1970s, the gain from trading with other nations is what is imported while the resulting exports determine the cost of actually procuring said imports, and what a nation must place as a priority, according to Adam Smith, is to arrange things so that that a large value of imports is gained contrary to a small volume of exports. Alburo (2018) indicated that a country with no imports would only lead to the demise of self-sufficiency, given that it would be reliant on the goods and services within its own lands. Additionally, international trade and importing goods have an important share in the country's Gross Domestic Product.

The trade flow of a country is dependent on many factors. Some of those are the Inflation rate, Exchange Rate and Average Tariff. This paper will be tackling issues focused on three independent variables on their impact on the quantity of imported and exported goods from the Philippines.

2.1 Imports

The paper will analyze how importation is influenced by the given variables. A study conducted in 2007 that tackled the benefits of imports in economic growth yielded interesting conclusions. It was determined that increasing import levels were accompanied by an intensification of market competition. Furthermore, such an increase was found to have reduced resource misallocation and promoted innovation. (Kim, Lim, Park 2007).

Interestingly, certain imports that come in bringing in services have differing effects for countries belonging to either the developed or developing world. According to a study tackling this topic, imports in services such as business-related ones are a huge factor in bringing economic progress to developing countries (Li, Greenaway, Hine 2003).

Beyond ASEAN, a study conducted by the European Union revealed four findings. First, imports declined profitability by a small degree. Second, the aforementioned finding holds true for developing economies. Third, negative elasticities were determined for imports from "superpower" nations such as the United States and China, while the opposite was true for nations such as those in South America. Finally, imports from developing economies have an asymmetric effect on profitability in the euro area (Peltonen, Skala, Rivera, Pula 2008).

2.2 Exports

These are affected by a variety of factors. In a study that was published in 2017, exports generate more local innovation by encouraging more businesses to be competitive. This, in turn, increases the market size and leads to more demand (Aghion, Bergeaud, Lequien, Melitz 2017). While this study was conducted within the context of French markets, it still follows the same concepts and theories which will be discussed further in this paper.

Developing nations are able to increase their labor and techno-intensive exports by manufacturing individual, unfinished product in the country of origin. An example of this would be China's ascent as the exporter of labor-intensive products that include toys and technology-intensive products such as mobile electronics. These exports are usually done within an international production network that is vertically integrated (Zhang and Markussen 1999).

Exports of new labour-intensive final products help increase exports of labor and technology-intensive final products of the countries of origin. Additionally, MNC's have better potential in exporting process locally produced raw materials by virtue of their foreign contacts, marketing skills and superior technology (Zhang 2005).

2.3 Inflation Rate

Inflation occurs when the level of prices increase, and the unit of currency buys less than it did previously (Sanghi, 2020). Inflation is defined as a unique experience determinant to each country wherein average prices of certain commodities and services increase as a result of a drop in the given country's currency value. Inflation results from a mix of various reasons that include food prices, foreign price increase, and the rise in the monetary interest rate (Delima, Lumintac 2019). According to Chand (2018), when the country's inflation rate is high, domestic households opt to have goods from other countries. On the other hand, when the country's inflation rate is low, it would increase the country's competitiveness and reduce the number of imports and increase the number of exports. Therefore, the inflation rate and the country's trade flow have an inverse relationship Chand (, 2018).

According to Guo, Karam. Valek (2019), in the year 2018, the Philippines experienced a sharp rise in the inflation rate. Different factors were deemed to have contributed to this. The factors may have been supply-demand driven. An increase in the supply and

demand of products and the continuous increase in prices of imported goods is not a good combination for the country (Guo, Karam. Valek 2019).

There was also research done to determine the effects of inflation rates using two (2) approaches. The first approach they have implemented in the study is looking at the inflation rate of core services (haircut, hospital bills, etc.) because the price changes incorporated into those services traces back to domestic factors, which causes demand pressures on inflation. The proponents used the New Keynesian model and the Kalman filtration to estimate various factors that contribute to inflation (*Karam, Guo, Valek 2019*).

As stated by Purusa and Istiqomah (2018), the ASEAN countries were studied for the effects of foreign direct investment (FDI) as well as for the price of crude Oil, and the rise of prices on exports. The results show that inflation on exports shows negative effects. Changes to monetary policies should be considered by the government of the Philippines because shifts in money demand and money multiplier are not the most reliable basis for the said policies. Weak commodity and equity markets result in credit from different sources such as loans and, therefore, does not assure the decrease of the inflation rate. Studies suggest that monetary and credit contraction can help in controlling the said inflation. This could have a short yet effective outcome repelling the impact of the supply side (Lim, 1987). It was also mentioned in the journal: The New Structuralist Critique of the Monetarist Theory of Inflation that the working capital cost-push and supply-side effect is significant enough of a challenge to the market. Therefore, drastic measures and costly recessions may be required for the price inflation to go down.

2.4 Foreign Direct Investments

According to Sultan Zafar (2013), Foreign Direct Investment (FDI) is an important means of promoting the exports of the countries of origin. It helps raise efficiency by improving both the local employment force through training and by giving the necessary skills an upgrade. As a result, it increases competitiveness in the global market.

The impact of FDI on trade has been analyzed further by numerous academicians, given that an idea of the effect this has on the globalization of the international expertise of the economy. (Bouras & Raggad (2015). The inflow of FDI is expected to raise both production and productivity, as well as encourage and bring about local progress and circulate investment in technologies (Alfaro et al., 2004). As stated by the study of Mitic & Ivić (2016), there is a relationship between FDI to the export of goods and exports in high technologies within the transition of economies.

It can be viewed side-by-side with international trade as long as endowment and factors of production vary per country. (Helpman, 1984).

There exists between FDI and export a singular relationship wherein the recasts in the FDI value has an effect on the changes of the value of exports. Looking from a short term perspective, an increase in FDI value causes an inverse effect in export value in which it decreases. From a long term point of view, an increase in value will increase the value of exports. This is because FDI is considered a long term investment wherein economic benefits can be obtained. (Albahi 2016).

2.5 Average Tariffs

Tariffs are among the variables that will be used for the purpose of this undertaking. The term "tariff" refers to a form of "protectionist measure" wherein a government imposes taxes on a certain good that is being imported into the country of destination (Amity, Redding, Weinstein 2018).

Tariffs imposed by a certain country must be defined by the organization and take into consideration externalities and other important factors. A well-organized tariff imposition is vital in ensuring a long-term beneficial effect for any country. It was concluded that tariffs, even if viewed from the lens of a single industry, cause a motion of change to the other industries of an economy as well (Nunn, Trefler 2010).

Studies have tackled the concept of tariffs within the ASEAN context both from independent and organization-affiliate researchers. In agreement with one of the studies done by Nunn and Trefler (2010), the Asian Development Bank concluded that member states that join and collaborate with partner countries and organizations are able to reinforce trading relations and thus, attract more foreign direct investment (Kawai, Naknoi 2015).

2.6 Synthesis

International trade is important since it raises the standard of living, promotes competitiveness, provides employment and offers consumers a variety of goods. As civilization occurs, there are several factors imposed on international trade that affect the trade flow in the country like inflation rate, exchange rate and the average tariffs in order to protect the government of one country and

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the domestic economy. The stated economic variables have their own advantages and disadvantages. Economists chose to put up these variables to eliminate greater problems like when there is a decrease in tariff, the prices of imported goods also decrease. And because of this, domestic producers should reduce the prices in order for them to compete with international competitors. Likewise, this will be an advantage to the domestic consumers since they will be paying lower prices.

2.7 Research Simulacrum

This research will be focusing on the implications of given rates and average tariffs on the free trade policies within the conglomerated Southeast Asian bloc. The factors or variables that will be used as a basis are inflation, FDI, as well as percentage tariffs—analyzing how these variables affect the trade between the Philippines and the rest of the ASEAN 6.

The study will work on the hypothesis that inflation and FDI, along with the tariffs, are important in influencing the trade policies of the ASEAN 6. Specific measurements for each of the variables will be looked into. The measurement for trade will focus more on the total value of exports and imports between the Philippines and the other 5 ASEAN nations.

Tariffs will be measured using their percentage rates. As stated in the review, tariffs refer to measures imposed by the government on incoming products. The tariffs rates that will be used in the analysis will depend on whether they will be looked at through foreign imports coming into the Philippines or exports from the Philippines coming into the other nations of the ASEAN-6. Tariffs imposed by the Philippine government will be used when imports coming into the Philippines are looked at, while the tariffs of each of the remaining 5 member states will be looked at when exports from the Philippines go into the rest of the ASEAN-6 are studied.

Inflation will be analyzed within the context of imports and exports separately. The inflation rates for imports will be taken from the Philippines only. The inflation rates for exports will be gathered from each respective member state of the ASEAN-6. The effects of inflation on imports and exports will be determined using the data accumulated through thorough studying. Inflation rates are defined as the increase of prices in either the Philippines or the other ASEAN-6 members.

Foreign Direct Investment will be looked at similarly as well. Exports will be analyzed using data from the FDI in the Philippines. Imports will be looked at through data gathered from the FDI in the other ASEAN-6 nations. FDI refers to investments made by foreign parties to countries.

A dummy variable will be included in our analysis to represent the necessary data that will be regressed. This dummy variable will be used to signify the presence of the data and will help in the simplification of the analysis.



3. Research Methodology

3.1 Study Design

The study will use a Quantitative research design. The numerical data will be collected and analyzed. This research design will be used to find the changes in exports and imports, make predictions, investigate the variables, and generalize the effect of trade policy.

3.2 Study Site

The research is a cross-country study exclusive to the so-called six main ASEAN members, namely Brunei, Indonesia, Malaysia, Singapore, Thailand and the Philippines. The data will be gathered in the period of the Year 1993 – 2015.

3.3 Instrumentation/Data Measures

The study will analyze the relationship between the value of exported and imported goods and the independent variables, namely: FDI, Inflation and average tariff in ASEAN-6 countries. The data used in the study are the imported and exported goods between the Philippines and ASEAN countries. This research made use of secondary data taken from the Philippine Statistics Authority (PSA), ASEAN, and the World Bank.

The study will make use of Microsoft Excel and Eviews to validate the data gathered from various sources. The same software will also be used to perform several tests on the data to answer the questions of the study.

3.4 Data Collection Procedure

The study will analyze the implication of AFTA based on the following: foreign demands of the exported goods; increased number of imported products circulated in the Philippine market brought by the Free Trade Policies; and the effects of FDI, Inflation, and tariff in the imported and exported goods.

The data used in the study are the imported and exported goods of ASEAN countries. Imports are goods of foreign origin that importers bring into another country and exported goods or products that leave a country.

The following data will be gathered from the Philippine Statistics Authority (PSA) are the total value of imports and exports of the Philippines from 5 ASEAN countries, while inflation, tariff, and FDI data will be taken from the World Bank.

3.5 Data Analysis/Mode of Analysis

The Ordinary least squares (OLS) regression is a method used in statistics wherein the parameters of the linear regression model are estimated. It gives an estimation of the relationship between the independent variables and the dependent variable by diminishing the sum of the squared errors, a difference between the observed and predicted values of the dependent variable constructed as a straight line. While doing any econometrics test, the OLS can be easily used and feasible to compute but need to know the underlying assumptions of the OLS regression in order to give correct results for the completed econometric test. In order to derive the OLS estimators in linear regression models, these assumptions must be taken into account: the linear regression model is "linear in parameters"; observations must be randomly sampled; the conditional mean must be zero; no multi-collinearity (or perfect collinearity) or linear relationship between the independent variables should exist; there is homoskedasticity and no autocorrelation, meaning that the error terms of different observations should not be tied in with each other and error terms should be in a normal distribution. The Gauss-Markov Theorem states that if the assumption from 1 to 5 are satisfied, then the Best Linear Unbiased Estimator (BLUE) will be the determining OLS Estimator.

 $Ex = \beta_0 + \beta_1 FDI_{(PH)} + \beta_2 TRF_{(BN,ID,MY,SG,TH)} + \beta_3 INF_{(BN,ID,MY,SG,TH)} + \beta d + e$

 $Im = \beta_0 + \beta_1 FDI_{(BN,ID,MY,SG,TH)} + \beta_2 TRF_{(PH)} + \beta_3 INF_{(PH)} + \beta d + e$

Where:

- = Export
- = Import
- = Intercept
- = FDI of Brunei, Indonesia, Malaysia, Singapore & Thailand
- =Tariff of Brunei, Indonesia, Malaysia, Singapore & Thailand
- =Inflation Rate of Brunei, Indonesia, Malaysia, Singapore & Thailand
- = FDI of Philippines
- =Tariff of Philippines
- =Inflation Rate of Philippines
- =Dummy Variable
- =Residuals

4. Results and Discussion

The study determines the relationship between the dependent variables such as FDI, and the independent variables as import, exports of the six ASEAN countries. Coefficient Correlation is used to analyze how strong the linear association is between the variables and the direction of the relationship if it exists.

Dependent Variable: EXPORT 6 LOG10 Method: Least Squares Date: 12/10/21 Time: 14:00 Sample: 1993 2015 Included observations: 23

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PH FDI LOG10	-0.126420	2.93E-14	-4.32E+12	0.0000
BR INF LOG10	-0.049208	9.89E-15	-4.98E+12	0.0000
BR TRF LOG10	-0.609189	7.86E-14	-7.76E+12	0.0000
IN INF LOG10	-0.217813	3.68E-14	-5.92E+12	0.0000
IN TRF LOG10	-0.859570	1.26E-13	-6.82E+12	0.0000
ML INF LOG10	-0.134864	5.11E-14	-2.64E+12	0.0000
ML TRF LOG10	-0.104275	5.29E-14	-1.97E+12	0.0000
SG INF LOG10	-0235831	1.97E-14	-1.20E+13	0.0000
SG TRF LOG10	-0.004698	1.46E-14	-3.21E+11	0.0000
TH INF LOG10	0.338207	2.19E-14	1.55E+13	0.0000
TH TRF LOG10	0.560367	1.04E-13	5.37E+12	0.0000
RESIDUAL	1.000000	7.89E-14	127E+13	0.0000
С	4.406159	9.60E-14	4.59E+13	0.0000
R-squared	1.000000	Mean dependentvar		3.703827
Adjusted R-squared	1.000000	S.D. dependent var		0 278708
S.E. of regression	2.16E-14	Sum squared resid		4.68E-27
F-statistic	3.05E+26	Durbin-Watson stat		2.399190
Prob(F-statistic)	0.000000		34 M. FRINKL	n ta an tha linte

Table 1. The Ordinary Least Squares (OLS) of the Export

The table above shows the OLS regression model for Export using the log-transformed dataset. The probability of all the variables is less than 0.05. This indicates that the relationship of the influence of all the independent variables such as inflation and tariff of ASEAN 5 (Brunei, Indonesia, Malaysia, Singapore and Thailand as well as the foreign direct investment of the Philippines is significant to the dependent variable (export). This shows that there exists a negative relationship between export and the independent variables (FDI, inflation and tariff). Based on Albahi (2016) work, there is a positive relationship between FDI and exports wherein the value changes in FDI affect the changes in the export value. In the short term, the increase in the value of FDI causes a decrease in the export value. Thus, the FDI of the Philippines has a negative effect on exports which means that FDI has not influenced positively to exports.



Figure 1. Time Series Plot of the Export Forecast/Fitted Values

The time series plot above shows the forecast/fitted values with -2 and +2 standard errors from 1994 to 2014, plotted with the observed values. The following coefficients (RMSE, MAE, MAPE, TIC) are all measures of errors. Low RMSE and MAE indicate a good fit, while the MAPE of 0.0000000000118% clearly indicates that the error of predictability of this model is extremely low.



Figure 2. Graph of Fitted Values and Observed Values of Exports

The graph shows the fitted and observed values (of the dependent variable) plotted close to each other on the same axis. This is basically a visual representation of the calculated values from the model summary table. Apparently, there are NO observable differences between the observed values and the fitted values since one of the predictors in this model is the residual itself. The graph below shows the residuals moving on a random pattern, indicating that the model (if it won't be treated as a TIME SERIES regression) provides a fairly decent fit for the data.

Dependent Variable: IMPORT_6_LOG10_ Method: Least Squares Date: 12/05/21 Time: 13:03 Sample: 1993 2015 Included observations: 23

Variable	Coefficient	Std. Error	t-Statistic	Prob.
BR FDI LOG10	0.035086	9.25E-15	3.79E+12	0.0000
IN_FDI_LOG10_	3.82E-06	4.61E-18	8.28E+11	0.0000
ML FDI LOG10	-0.015254	1.19E-14	-1.28E+12	0.0000
SG FDI LOG10	0.208497	2.76E-14	7.56E+12	0.0000
TH FDI LOG10	0.212938	2.22E-14	9.59E+12	0.0000
PH_TRF_LOG10	-0.184113	1.39E-14	-1.32E+13	0.0000
PH INF LOG10	-0.005202	2.48E-14	-2.10E+11	0.0000
RESIDUAL01	1.000000	5.17E-14	1.93E+13	0.0000
с	2.174213	1.32E-13	1.65E+13	0.0000
R-squared	1.000000	Mean dependent var		3.845463
Adjusted R-squared	1.000000	S.D. dependent var		0.270654
S.E. of regression	2.24E-14	Sum squared resid		7.04E-27
F-statistic	4.00E+26	Durbin-Watson stat		1.653742
Prob(F-statistic)	0.000000			

Table 2. The Ordinary Least Squares (OLS) of the Import

Table 2 displays the OLS regression model for import using the log-transformed dataset. The probability of all the variables is less than 0.05. This indicates that the relationship of the influence of all the independent variables such as inflation and tariff of ASEAN 5 (Brunei, Indonesia, Malaysia, Singapore and Thailand as well as the foreign direct investment of the Philippines is significant to the dependent variable (import). The foreign direct investment of Brunei, Indonesia, Singapore and Thailand had a positive influence on import, such that there is a positive relationship when it comes to these variables, meaning that as the FDI increases, the import also increases. While the FDI of Malaysia had a negative influence on imports, thus there is a negative relationship with imports. This signifies that as FDI decreases, the import increases. Li et al. (2003) stated that imports in services such as businessrelated ones are a huge factor in bringing economic progress to developing countries. And in comparison to the present study, where the import increases and an increase in FDI signify that the 5 ASEAN countries increase their production, which results in an increase in imports to the Philippines. Based on the study of Chand (2018) that when the inflation rate of the country is high, domestic households opt to have goods from other countries. On the other hand, when the country's inflation rate is low, it would increase the country's competitiveness and reduce the number of imports and increase the number of exports. Therefore, the inflation rate and the trade flow of the country has an inverse relationship Chand (, 2018). In congruence with the present study, where the number of imports increased, and the consumers spent more on imports, this leads to a reduction in the domestic demand and a decrease in inflation. Based on the work of Amity et al. (2018) that the term "tariff" refers to a form of "protectionist measure" wherein a government imposes taxes on a certain good that is being imported into the country of destination congruence. Like the present study, the decrease in tariff in the Philippines manifests to reduce competition among domestic industries and protect domestic employment as well as increase the government's revenue.

The figure below shows the time series plot of the import forecast/fitted values with -2 and +2 standard errors from 1994 to 2014, plotted with the observed values. The following coefficients (RMSE, MAE, MAPE, TIC) are all measures of errors. Low RMSE and MAE indicate a good fit, while the MAPE of 0.0000036213% clearly indicates that the error of predictability of this model is extremely low.



Figure 4. Graph of Fitted and Observed Values of Imports

The graph shows the fitted and observed values (of the dependent variable) plotted close to each other on the same axis. This is basically a visual representation of the calculated values from the model summary table. Apparently, there are NO observable differences between the observed values and the fitted values since one of the predictors in this model is the residual itself. The graph below shows the residuals moving on a random pattern, indicating that the model.

5. Conclusion

The goal of this undertaking is to determine the economic effects brought about by free-trading policies between the Philippines and the six (6) main member states of the ASEAN region. The topic was analysed by looking at the relationship between the dependent variables such as imports and exports and independent variables such as inflation, foreign direct investments, and tariffs. Initially, the hypothesis rested on whether a significant relationship exists between each of the aforementioned factors. When run through the relevant statistical software package, the given data do show a high degree of predictability between the independent variables. These findings confirm that there exists a significant degree of negative correlation between the import and inflation, tariff and FDI. While on the other hand, there is a significant positive correlation between the FDI and import of 4 ASEAN countries, namely Brunei, Singapore, Thailand, and Indonesia, and a negative correlation between FDI and import of Malaysia, while the tariff and inflation of the Philippines and imports come up with a negative relationship. This brings us to the conclusion that the independent variables are affected by the policy of free trade but for the good of the economies of the countries involved. In the bigger picture of economic analysis, focusing on the effects brought about by free trade on inflation, FDI and tariffs are not really that looked upon in greater depth. With this undertaking, it is expected that further examination of this topic will expound more as the zeitgeist affecting the ASEAN bloc continues to tentatively change. Probing how each variable is affected given the change of time will give this undertaking new light.

Given that the member nations of the ASEAN bloc are in the process of recovery because of the current global situation, it is fitting that these new findings be taken seriously into consideration. However, it should be noted that certain factors had to be placed into consideration when analyzing the given data. Prudence and proper knowledge must still be exercised to ensure the balance is ensured.

6. Policy Implication

The aim of AFTA is to gradually eliminate tariff barriers and create a regional market for people. It also aims to reinforce the intra-ASEAN industrial linkages to create a strong and competitive small and medium enterprise. This results in the consumer obtaining goods from the more competent producer.

The Rice Tariffication Law (RA11203) states that the law removed quantitative restrictions on rice importation. Hence, the rice farmers will not have enough time to adjust to the change in rice supply. Unlike in AFTA, the tariff is gradually eliminated to give enough time for the local producers to adjust to the market supply change.

RA 11203 is just a band-aid solution to the real problem, which is the shortage of rice, but the government should address a solution to this problem that the people will benefit from it in the long term.

The government should support the local farmer's improvement of irrigation system through seminar workshops/training to promote and disseminate modern technologies to improve the production and utilization of products and by-products and provide technical assistance and services in the field of agriculture and the small and medium enterprise.

The policy-makers should build an inclusive and sustainable trading system by identifying priorities for improvement and clarifying the design of new trade rules. The policy-makers should also come up with indicators, trade facilitation performance of different countries, information on the degree of trade in services restrictiveness, and also records on export restrictions.

The present research findings can contribute to the Law of Comparative Advantage and International Trade Theory. Company Advantage Law is defined as how an economy is able to produce a certain good or service whilst making use of a more reasonable opportunity cost than its other forbears. The result is that a company can sell goods and services at a lower price than its other forbears in the market and thus bring about a stronger profit margin. The theory of comparative advantage believes that even if one country can produce goods cheaper than can another country, both can still trade under conditions wherein each of them will benefit. While the International Trade Theory explains how two parties from two completely different parties exchange goods, it must be remembered that people or entities trade because they believe that there is a benefit from that exchange. They may need or want the goods or services from other countries that may not have been available domestically, and as a result, there will be a market increase, making them more competitive. The more competitive pricing brings a cheaper product to the consumer.

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References

Average Tariff:

- Amiti, A., Redding, J., & Weinstein, D. (2019). The Impact of the 2018 Tariffs on Prices and Welfare. From:https://www.jstor.org/stable/26796842?seq=1#metadata_info_tab_contents
- [2] Cadot, O., Cordoba, S., & Ing, L. (2016). Non-Tariff Measures in ASEAN. From: https://www.eria.org/uploads/media/RPR_FY2015_No.1.pdf
- [3] Cadot, O., Peters, C., & Ing, L. (2019). Regional Measures and Non-Tariff Measures in ASEAN.
- https://www.eria.org/uploads/media/Regional_Integration_and_NTM_in_ASEAN.pdf [4] Doan, H., & Rosenow, S. (2019). Non-Tariff Measures in ASEAN.From:
- https://www.eria.org/uploads/media/ERIA_Book_NTM_An_Update_2019.pdf
- [5] Kawai, M., Naknoi, K. (2015) ASEAN Economic Integration through Trade and Foreign Direct Investment: Long-Term
- ChallengesFrom:https://www.adb.org/publications/asean-economic-integration-through-trade-and-foreigndirectinvestment-long-term
- [6] Nunn, N., Trefler, D. (2010) The Structure of Tariffs and Long Term Growth From: https://www.aeaweb.org/articles?id=10.1257/mac.2.4.158

Inflation Rate:

- [7] Alawin, M. & Oqaily, M. (2017). CURRENT ACCOUNT BALANCE, INFLATION, INDUSTRY AND SUSTAINABLE DEVELOPMENT IN JORDAN From: https://www.redalyc.org/pdf/391/39153623004.pdf
- [8] Delima A. & Lumintac M. (2019). Application of Time Series Analysis for Philippines' Inflation Prediction. From: https://www.researchgate.net/profile/AllemarJhoneDelima/publication/333559369_Application_of_Time_Series_Analysis_for_Philippine s%27_Inflation_Prediction/links/5cf3bf584585153c3dad1e82/Application-of-Time-Series-Analysis-for-Philippines-Inflation-Prediction.pdf

- [9] Deluna, R. (2014). The Long-run Relationship among World Oil Price, Exchange Rate and Inflation in the Philippines.From: https://ideas.repec.org/p/pra/mprapa/60116.html
- [10] Guo, S., Karam, P., & Vlcek, J. (2019). Decomposing the Inflation dynamics in the Philippines, WP.From: https://www.imf.org//media/Files/Publications/WP/2019/WPIEA2019153.ashx
- [11] Islam, A. (2013). Impact of inflation on import: An empirical study. From:http://www.sciencepublishinggroup.com/journal/paperinfo.aspx?journalid=173&doi=10.11648/j.ijefm.20130106.16
- [12] Purusa, N. A., & Istiqomah, N. (2018). Impact of FDI, cop, and inflation to export in Five ASEAN COUNTRIES. Jurnal Ekonomi Pembangunan: Kajian Masalah Ekonomi Dan Pembangunan, 19(1), 94.
 - doi:10.23917/jep.v19i1.5832.From: https://www.statista.com/statistics/804325/inflation-rate-in-the-asean-countries/
- [13] Sahoo, M., & Sethi, N. (2018). The dynamic relationship between Export, import and Inflation: Empirical evidence from India. The Indian Economic Journal, 66(3-4), 294-311. From: doi:10.1177/0019466220935552.
- [14] Siok Kun, S., Ooi, C., & Mohd, T. I. (2012). Investigating the Relationship between Exchange Rate and Inflation Targeting. Applied Mathematical Sciences. 6. 1571-1583.

From:https://www.researchgate.net/publication/232241960_Investigating_the_Relationship_between_Exchange_Rate_and_Inflation_Targetin **FDI**

- [15] Albahi, M. (2016) Export-Import and Foreign Direct Investment (FDI): Indonesian Economic Study From: http://iosrjournals.org/iosrjef/papers/Vol7-Issue4/Version-3/E0704033744.pdf
- [16] Bouras, H. & Raggad, B. (2015) Foreign Direct Investment and Exports: Complementarity or Substitutability An Empirical Investigation From: https://www.econjournals.com/index.php/ijefi/article/download/1372/pdf
- [17] Istiqomah, N., & Purusa, N. (2018). Impact of FDI, COP, and Inflation to Export in Five From: http://journals.ums.ac.id/index.php/JEP/article/view/5832/4048
- [18] Kawai, M., & Naknoi, K. (2015). ASEAN Economic Integration through Trade and Foreign Direct Investment: Long-Term Challenges. From:https://www.adb.org/sites/default/files/publication/174835/adbi-wp545.pdf
- [19] Mukhtarov, S., Alalawneh, M. M., Ibadov, E., & Huseynli, A. (2019). The impact of foreign direct investment on exports in Jordan: An empirical analysis From: https://www.jois.eu/files/4_687_Mukhtarov%20et%20al.pdf
- [20] Muzuzura, J., Sikwila, M. & Nesongano, T. (2011) The impact of foreign direct investment (FDI) on export growth: Evidence from Zimbabwe-1980 to 2011 From: https://www.aabri.com/manuscripts/162546.pdf
- [21] Payne, J. (2012) Impact of Foreign Direct Investment, Trade Openness, Domestic Demand, and Exchange Rate on the Export Performance of Bangladesh: A VEC Approach From: https://www.hindawi.com/journals/ecri/2012/463856/
- [22] Purusa, N. A., & Istiqomah, N. (2018). Impact of FDI, cop, and inflation to export in Five ASEAN COUNTRIES. Jurnal Ekonomi Pembangunan: Kajian Masalah Ekonomi Dan Pembangunan, 19(1), 94.
- doi:10.23917/jep.v19i1.5832.From:https://www.statista.com/statistics/804325/inflation-rate-in-the-asean-countries/
- [23] Sultan, Z. (2013) A Causal Relationship between FDI Inflows and Export: The Case of India From: https://core.ac.uk/download/pdf/234645817.pdf

Imports:

- [24] Lim, S., Lim, H., Park. D (2007). Could Imports be Beneficial for Economic Growth: Some evidence from the Republic of KoreaFrom: https://think-asia.org/bitstream/handle/11540/1864/wp103.pdf?sequence=1
- [25] Li, X., Greenaway, D., Hine. R (2003). Imports of services and economic growth: a dynamic panel approach From:https://do.coleurope.eu/referencesservicesEUinst/pdf/SETI/Imports%20of%20services%20and%20economic%20growth%20%20%20a %20dynamic%20panel%20approach.PDF
- [26] Peltonen, T., Skala, M., Rivera, A., Pula, G. (2008). Imports and profitability in the euro area manufacturing sector the role of emerging market economies From:http://martinskala.de/ecbwp918.pdf

Exports:

- [27] Aghion, P., Bergeaud, A., Lequien, M., Melitz, M. (2008). The Impact of Exports on Innovation: Theory and Evidence From: https://scholar.harvard.edu/files/melitz/files/innovation-exporting_link.pdf
- [28] Nwanna, G. The Contribution of Foreign Direct Investment to Exports From: https://www.econstor.eu/bitstream/10419/140050/1/v21-i06-a04-BF02925173.pdf
- [29] Zhang, K. H. and James R. M. (1999), Vertical Multinationals and Host-Country Characteristics", Journal of Development Economics, 59: 233-252. From: https://core.ac.uk/download/pdf/234645817.pdf
- [30] Zhang, K. H. (2005), China's Export Competitiveness, in Kevin H. Zhang ed., China as An World Factory, Rutledge, London. From: https://core.ac.uk/download/pdf/234645817.pdf
- [31] Zhang, K. H. (2005), How Does FDI Affect a Host Country's Export Performance? The Case of China", [Online] Available: http://faculty.washington.edu./kariyu/cofer/xian05/paper/zhang.pdf. From: https://core.ac.uk/download/pdf/234645817.pdf

Other references:

- [32] Akhmadi, H. (2019) Assessment the Impact of ASEAN Free Trade Area (AFTA) on Exports of Indonesian Agricultural CommodityFrom: https://journal.umy.ac.id/index.php/ag/article/view/2946/2765
- [33] Alburo, F. (2018). Export promotion policy and economic growth in the Philippines: A comparative context. From: https://www.econstor.eu/bitstream/10419/202521/1/1038680557.pdf
- [34] Anbumozhi, V., & Kim, J. (2016). Towards a Circular Economy. From:https://www.eria.org/ERIA_RPR_FY2014_44.pdf
- [35] ASEAN Free Trade Agreement (1992). From: https://www.worldtradelaw.net/fta/agreements/afta.pdf.download
- [36] Buted, D., Bonsol, K., Ilagan, H., Lacorte, R., Ona, R., & Mendoza, F. (2018). Effects of Importation to the Economic Development of Batangas Province, Philippines. From: https://research.lpubatangas.edu.ph/wp-content/uploads/2019/07/APJARSS-2018-006.pdf

The Economic Effects of Free Trading Policies Within an Integrated Economy Between Philippines and the Asean-6 Member States

- [37] Chen, L., De Lombaerde, P., & Cuyvers, L. (2017). Markets Matter: The Potential of Intra-Regional Trade in ASEAN and Its Implications for Asian Regionalism. From:https://www.mitpressjournals.org/doi/pdf/10.1162/ASEP_a_00510?fbclid=IwAR1-SNtMwDbl_2JaUyvuTA2G_RJJNyPC4Aiv8b-xC_xGqRoo3CWR65WbSs8&
- [38] Guinigundo, D. (2009), The impact of the global financial crisis on the Philippine financial system an assessment. From: https://bis.org/publ/bppdf/bispap54s.pdf
- [39] Hapsari, I., Mangunsong, C. (2006) Determinants of AFTA Members' Trade Flows and Potential for Trade Diversion From: https://www.econstor.eu/bitstream/10419/178379/1/awp-21.pdf
- [40] Ing, L., & Cadot, O. (2016). Facilitating ASEAN Trade in Goods. From: https://www.eria.org/ERIA-DP-2016-20.pdf
- [41] ING, L., & CADOT, O. (2017). Facilitating ASEAN Trade in Goods. From: https://www.eria.org/ERIA-PB-2017-07.pdf
- [42] Ing, L., Urata, S., & Fukunuga, Y. (2016). How Do Exports and Imports Affect the Use of Free Trade Agreements? Firm-level Survey Evidence from Southeast Asia. From:https://www.eria.org/ERIA-DP-2016-01.pdf
- [43] Intal, P. (2015). ASEAN Foreign Trade, Investment, and Integration in Comparative Perspective From:https://www.eria.org/3.2.ASEAN_50_Vol_3_Integrative_Chapters_2.pdf?fbclid=IwAR0wVtkwTOscGv7PARTiaSXdnhoNGuO5V9-McxDHDJOrKqtlhA8YQ6VAhE4
- [44] Intal, P., Pangestu, M. (2019) Integrated and Connected Seamless ASEAN Economic Community. From:https://www.eria.org/uploads/media/0.AV2040_VOL4.pdf
- [45] Lai, K (2019). Are trade and transport logistics activities mutually reinforcing? Some empirical evidence from ASEAN countries. From:https://jshippingandtrade.springeropen.com/track/pdf/10.1186/s41072-019-0041-x.pdf
- [46] Lai, K., Pang, Y., Wong, C., Lun, V., & Ng, E. (2019). SAFTA and AFTA: a comparative welfare analysis of two regional trade agreements. From:https://journalofeconomicstructures.springeropen.com/track/pdf/10.1186/s40008-018-0124-0.pdf
- [47] Lun, V., & Hoffmann, J. (2016). Connectivity and trade relativity: the case of ASEAN. From:https://jshippingandtrade.springeropen.com/track/pdf/10.1186/s41072-016-0015-1.pdf
- [48] Muryani, M., Pratiwi, A. (2014). Intra-Industry Trading Factors and Patterns in Asean-5 Region. From: https://ejournal.unair.ac.id/JGS/article/view/8362
- [49] Narjoko, D., Shrestha R., Buban, S., Muchtar, P. & Setyadi, E.(2021) Joint Study on 10+3 Cooperation for Improvement of Supply Chain Connectivity From:https://www.eria.org/uploads/media/Research-Project-Report/Joint-Study-on-10%2B3-Cooperation-for-Improvementof-Supply-Chain-Connectivity.pdf
- [50] Nikomburirak, D. (2013) ASEAN trade in services. From:https://books.google.com.ph/books?hl=en&lr=&id=WZPhAwAAQBAJ&oi=fnd&pg=PA95&dq=Asean+trade&ots=tNsUzwOWnf&sig =4BtDBCgbOhP430_P4jSSuhqd_Jl&redir_esc=y#v=onepage&q=Asean%20trade&f=false
- [51] Okabe, M., & Urata, S. (2013). The Impact of AFTA on Intra-AFTA Trade. From: https://www.eria.org/ERIA-DP-2013-05.pdf
 [52] Santosa, D.B. (2018). Does export promotion policy benefit ASEAN economic development? International Journal of Trade and Global Markets, Inderscience Enterprises Ltd, vol. 11(1/2), pages 3-11. From: https://ideas.repec.org/a/ids/iitrgm/v11v2018i1-2p3-11.html
- [53] Zein, Y., Rohman, A., Nurvianti, D., Fathurrahman (2020). Does the ASEAN economic community impact cross border trade development in developing countries? (An example from Indonesia). From:https://iopscience.iop.org/article/10.1088/1755-1315/575/1/012038/pdf