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The Determinant of the Import Value of Footwear by Five Countries from Indonesia 2016 to 2021

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ABSTRACT: Footwear is one of Indonesia's leading products that is significantly demanded by importing countries. The panel data analysis method was used in this study with a total of 30 observations over 6 years, and using Eviews software. The secondary data used in this study came from various reliable sources, including the Central Bureau of Statistics (BPS), the Indonesian Ministry of Trade, and the World Bank. The research findings show that inflation and the population of importing countries have a positive and significant influence on footwear imports, which means that when the inflation rate rises or the population of importing countries increases, footwear imports tend to increase. Meanwhile, the economic growth of the importing country, although it has a positive influence, does not show a statistically significant effect on footwear imports. This research provides deeper insights in the context of economic and trade decision-making, which can serve as a basis for the government and the footwear industry to design more adaptive and effective policies in the face of a changing and dynamic international market.

KEYWORDS: Footwear Import, Economic Growth, Inflation, Population

I. INTRODUCTION

The most important notion of international economics is the idea of gains of trade (Krugman & Obstfeld, 2009). International trade is the activity of selling (exporting) and buying (importing) goods and services carried out by one country to another. Indonesia has two primary export categories: oil and gas, and non-oil and gas. The revenue from non-oil and gas exports is derived from the significant contributions of three key sectors: agriculture, manufacturing industry, and mining. The manufacturing industry is an economic activity that increases the value of goods by converting raw materials into finished or semi-finished goods, either mechanically or chemically with machines or hands (Desak et al., 2022). Manufacture industry products are considered to always have a high or more favorable exchange rate and create greater added value compared to the products of other sector (Hintama et al., 2020). The manufacturing industry sector is one of the sectors that plays a significant role in national development (Solikin, 2022).

One of the potential commodities in the manufacturing industry is footwear. Commodities included in non-oil and gas exports, namely footwear, ranked eighth with a contribution of 2.8% and were able to contribute 0.43% of the total trade surplus in 2021. This product has just made history with the highest export value in 2021, which amounted to USD 6.1 billion. 35% of the total exports (USD 2.1 billion) were absorbed by the United States. The United States has been the main importer of footwear products made in Indonesia for the past ten years. The Indonesian Footwear Association (APRISINDO) notes that apart from the United States, the European Union also contributes significantly to footwear imports. For six consecutive years, Belgium and Germany were the two EU countries that subscribed to import footwear products from Indonesia. In addition to the American and European markets, Indonesian footwear products are also favoured by the Asian market, especially in China and Japan.

II. LITERATURE REVIEW

International trade theories provide insights into the dynamics of trade between nations. Heckscher-Ohlin theory suggests that countries are inclined to produce and export goods that utilize abundant factors of production while importing those that rely on scarce factors. This allows nations to leverage their comparative advantages in resource allocation (Redjeki, 2023). The theory of comparative advantage developed by David Ricardo further emphasizes that countries will tend to import goods they cannot efficiently produce, while exporting those with a lower opportunity cost. Hence, comparative advantage theory elucidates the relationship between a country's imports and its ability to capitalize on its comparative advantage in international trade. Importantly, the theories highlight the mutual benefits of international trade by enhancing economic efficiency and allowing nations to gain advantages from specialized production. Additionally, Vernon's product life cycle theory emphasizes the initial exportation of innovative products by advanced nations, with production eventually shifting to more efficient and cost-effective

developing countries, leading the original nation to rely more on imports than exports for specific products over time (Purba et al., 2023).

Economic growth, measured through GDP, enhances societal prosperity by increasing income and purchasing power, thereby boosting the demand for products and services (Suharti et al., 2022). The Solow-Swan model emphasizes the importance of per capita income in sustained economic growth. Inflation impacts a nation's imports, with higher inflation rates reducing consumer purchasing power and making imports more affordable (Ilmas et al., 2022). The Purchasing Power Parity (PPP) theory illustrates how currency exchange rates are influenced by inflation differences between countries. Population growth, a vital economic indicator, can drive a country to import more to meet rising demands (Khan et al., 2021). The dynamics of population are significant factors influencing both the supply (exports) and demand (imports) dimensions of international trade. Factors influencing population growth include changes in birth and death rates over time.

III. RESEARCH METHOD

This research employs a quantitative, descriptive method to analyse the factors influencing the import value of footwear products by five importing countries: the United States, China, Belgium, Germany, and Japan from Indonesia during the period 2016-2021. The choice of quantitative analysis is motivated by the need to test research hypotheses that may take descriptive, comparative, and associative forms. The study focuses on providing a description of the collected data without intending to draw generalizable conclusions (Sugiyono, 2016). The research location is in Indonesia, with a specific focus on the five countries that consistently imported Indonesian footwear over six consecutive years. The object of the study is the import values of footwear by the mentioned countries during the specified period. The dependent variable (Y) is the imported value of footwear, while the independent variables (X) include the economic growth (X1), inflation (X2), and population (X3) of the importing countries during the same period. The imported value is measured by the quantity of footwear purchased multiplied by the footwear prices, expressed in million USD. Economic growth and inflation are presented as percentage changes, and population is measured in million people. The study aims to understand the relationship between these variables and the footwear import values over the specified timeframe.

The study employs both qualitative and quantitative data. Qualitative data, characterized by descriptions and sentences, includes information related to the imported value of footwear by five countries from Indonesia, economic growth, footwear prices, and inflation in the importing countries. Quantitative data, expressed in numerical form, comprises secondary data obtained from external sources, specifically time series data reflecting the economic growth, inflation, population, and imported value of footwear by the United States, China, Belgium, Germany, and Japan from 2016 to 2021. The research solely relies on secondary data, sourced from private publications and government agencies such as Indonesia's Central Statistics Agency (BPS) for footwear import values, and the World Bank for economic indicators. The study employs a panel data approach, integrating time series data and cross-sectional data for the chosen countries, resulting in a total of 30 observations (n) reflecting the six-year period and five importing countries.

The data analysis for this research involves two main methods: descriptive analysis and panel data regression analysis. Descriptive analysis, a statistical approach, is utilized to depict and characterize the collected data without aiming for general conclusions or generalization. Panel data regression analysis, on the other hand, utilizes both time series and cross-sectional data in combination. (Kropko & Kubinec, 2020). Time series data can span various intervals, such as yearly, semi-annual, quarterly, monthly, or weekly, while cross-sectional data encompasses multiple objects at specific periods, including individuals, districts, cities, provinces, countries, businesses, or industries (Hsiao, 2022). The classical assumption tests, including checks for multicollinearity and heteroskedasticity, as well as statistical tests such as the t-test and F-test, are applied in the analysis. These methods contribute to a comprehensive understanding of the factors influencing the imported value of footwear by the five selected countries from Indonesia over the six-year period.

IV. RESULT AND DISCUSSION

Table 1. Results of Descriptive Statistical Analysis

	N	Minimum	Maximum	Mean	Std. Deviation
Import	30	281,6846	2.116,000	631,9912	475,4243
Economic Growth	30	-5,400000	8,100000	2,083333	3,319855
Inflation	30	-0,900000	4,500000	1,743333	1,284841
Population	30	11,33144	1.412,360	390,3426	525,9702
Observations	30				

Source: secondary data processed, 2023

According to the descriptive statistical analysis seen in the table, there are 30 observations obtained during the research period of 6 years from 2016 to 2021. This study involves 5 countries that import footwear from Indonesia. Economic growth has a minimum value of -5.4%. The maximum value is 8.1% and the average is 2.08% with a standard deviation of 3.31%. Inflation has

a minimum value of -0.9%. The maximum value is 4.5% and the average is 1.74% with a standard deviation of 1.28%. Total population has a minimum value of 11.33 million people. The maximum value is 1.41 billion people and the average is 390 million people with a standard deviation of 526 million people. Imports have a minimum value of 282 million USD. The maximum value is 2.12 billion USD and the average is 631 million USD with a standard deviation of 475 million USD.

Table 2. Results of Fixed Effect Model (FEM) Estimation

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-6751.310	2114.989	-3.192125	0.0042
X1	9.233022	9.867429	0.935707	0.3596
X2	61.66848	25.75560	2.394372	0.0256
X3	18.59023	5.429074	3.424198	0.0024

Source: secondary data processed, 2023

After conducting regression analysis on the data, the estimated equation is as follows:

$Y = -6.751{,}310 + 9{,}233022X_1 + 61{,}66848X_2 + 18{,}59023X_3 + \mu it$

Se (2,114,989) (9,867429) (25,75560) (5,429074)

t (-3,192125) (0,935707) (2,394372) (3,424198)

F = 61,18712

Explanation:

Y = value of imported footwear by five countries from indonesia

X_1 = economic growth of the importing country

X_2 = inflation of the importing country

X_3 = population of the importing country

Se = standard error

t = critical t-value

μit = error term

F = critical F-value

Table 3. Results of Correlation Analysis Among Independent Variables

	X1	X2	X3
X1	1	0,5342939	0,6250143
X2	0,5342939	1	0,3325246
X3	0,6250143	0,3325246	1

Source: secondary data processed, 2023

Based on the table presented, the correlation coefficient of economic growth (X1) and inflation (X2) is 0.5342939 < 0.8; the coefficient of inflation (X2) and population (X3) is 0.3325246 < 0.8; and the coefficient of population (X3) and economic growth (X3) is 0.6250143 < 0.8. Therefore, we can infer that multicollinearity is not present.

Table 4. Glejser Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-207.1920	1137.678	-0.182118	0.8572
Economic Growth	-2.377861	5.307807	-0.447993	0.6585
Inflation	20.35127	13.85424	1.468955	0.1560
Population	0.647518	2.920364	0.221725	0.8266

Source: secondary data processed, 2023

The table reveals that all the probability values for the three variables are greater than 0.05. This suggests that heteroscedasticity is not observed in this study.

Table 5. F Test Results

R-squared	0.951145	Mean dependent var	631.9912
Adjusted R-squared	0.935600	S.D. dependent var	475.4243
S.E. of regression	120.6493	Akaike info criterion	12.64683
Sum squared resid	320237.4	Schwarz criterion	13.02048
Log likelihood	-181.7025	Hannan-Quinn criter.	12.76637

F-statistic	61.18712	Durbin-Watson stat	1.945698
Prob(F-statistic)	0.000000		

Source: secondary data processed, 2023

According to the Eviews output, the F-count of 61.18712 surpasses the F-table value of 2.975, and the significance level of 0.00 is less than 0.05. Thus, the null hypothesis (H0) is invalidated, and the alternative hypothesis (H1) is accepted, it is concluded that economic growth, inflation, and the population of importing countries together affect the value of footwear imported by five countries from Indonesia from 2016 to 2021 with a confidence level of 95%.

Table 6. t Test Results

Independent Variable	Coefficient	t-value	Significance Value	Testing Criteria
Economic Growth	9.233022	0.935707	0.3596 > 0,05	Not Significant
Inflation	61.66848	2.394372	0.0256 < 0,05	Significant
Population	18.59023	3.424198	0.0024 < 0,05	Significant

Source: secondary data processed, 2023

The interpretation of the t test results is as follows.

1) The results of the t-test present a positive coefficient value of 9.233022 for economic growth (X1). With a significance value of 0.3596 (> 0.05) and a t-count value < t-table (0.935707 < 1.70), the null hypothesis (H0) is rejected, and the alternative hypothesis (H1) is affirmed. In accordance with the results, the b1 value of 9.233022 indicates that a 1 percent increase in the economic growth of the importing country (X1) would result in an average increase of 9.233022 million USD in the footwear imported by five countries from Indonesia, assuming inflation (X2) and population (X3) remain constant.
2) The t-test outcomes disclose a positive inflation coefficient (X2) value of 61.66848. With a significance value of 0.0256 (< 0.05) and a t-count > t-table (2.394372 > 1.70), the null hypothesis (H0) is dismissed, and the alternative hypothesis (H1) is embraced. Accordingly, the b2 value of 61.66848 signifies that a 1 percent increase in the importing country's inflation (X2) would lead to an average increase of 61.66848 million USD in the footwear imported by five countries from Indonesia, assuming constant economic growth (X1) and population (X3).
3) The t-test findings show a positive population coefficient (X3) value of 18.59023. With a significance value of 0.0024 (< 0.05) and a t-count > t-table (3.424198 > 1.70), the null hypothesis (H0) is rejected, and the alternative hypothesis (H1) is accepted. Thus, the b3 value of 18.59023 signifies that a 1 million increase in the importing country's population (X3) would result in an average increase of 18.59023 million USD in the footwear imported by five countries from Indonesia, assuming constant economic growth (X1) and inflation (X2).

The statistical test results show that the economic growth of importing countries has the potential to increase the value of footwear imports from Indonesia on average by 9.233022 million USD per 1 percent increase in economic growth. However, this effect is not significant (significance value 0.3596 > 0.05), indicating that economic growth (X1) does not significantly affect HS 64 footwear imports. The analysis shows that footwear as intermediate goods is more related to manufacturing activities and trade policies, in line with WTO data showing import preferences on certain non-agricultural commodities by five major countries. Indonesian footwear export data in 2021 from WITS shows a very small and insignificant proportion in total export value. Exports to the United States were only 0.63% of the total 11 million USD, to China 0.78% of 56 million USD, to Belgium 0.00%, to Germany 0.15% of 3 million USD, and to Japan 0.02% of 14 million USD. Import priorities favour commodities such as motor vehicles (HS8703), crude oil (HS2709), automatic data processing machines (HS8471), monitors and projectors (HS8525), and pharmaceuticals (HS3004).

The results in this study align with the initial expectation that inflation positively influences the value of footwear imported by the five countries from Indonesia. The results show that inflation has a positive and significant effect on the value of footwear imported by five countries from Indonesia. The coefficient of inflation is 61.66848 with a significance of 0.0256 < 0.05. The interpretation of the coefficient is that if inflation increases by 1 percent, it will cause an increase in the value of footwear imported by five countries from Indonesia on average by 61.66848 million USD. This can be explained by the tendency of businesses to seek economic solutions, including the import of intermediate goods, when domestic production costs increase due to inflation. Production efficiency factors and dependence on global supplies also contribute to the decision to increase imports under inflationary conditions. As intermediate goods, HS 64 (footwear products and components) plays a crucial role in the production chain. The presence of Puma and Adidas in Germany, as brand bases, affects the import dynamics of HS 64.

The test outcomes match with the hypothesis, indicating that the population has a positive and significant influence on the value of footwear imported by five countries from Indonesia. The coefficient of population is 18.59 with a significance of 0.0024 < 0.05, which can be interpreted that every increase in population by 1 million people will increase the value of footwear imported by five countries from Indonesia by an average of 18.59023 million USD. Large populations in importing countries, such as the United

States, China and Germany, significantly contribute to the increase in the value of footwear imports from Indonesia. HS 64, as intermediate goods, gets a production boost due to large economies of scale. Countries with large populations create potential markets for finished products. HS 64 as intermediate goods supports production scale, with China exporting USD 73 Billion to the United States and Germany USD 10 Billion to Poland in 2021. The United States, a major exporter, shipped USD 1 Billion to Canada and 184 other countries. Nike, a US brand, capitalizes on its domestic market share, while Indonesia as a supplier of intermediate goods strengthens global cooperation in footwear production.

V. CONCLUSIONS

1) Economic growth, inflation, and population simultaneously impact the value of footwear imported by five countries from Indonesia. This result implies that the three independent variables, namely economic growth, inflation, and population, affect the value of footwear imported by five countries from Indonesia.
2) Partially, inflation and population have a positive and significant effect, while economic growth has a positive impact but an insignificant effect on the value of footwear imported by five countries from Indonesia.

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