



## Analysis of The U.S.-China Trade War on Exports From Indonesia's Key Manufacturing Sectors to China 2003–2023

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**Abstract.** This study examines how the US-China trade war affected Indonesia's exports of major manufacturing products to China from 2003 to 2023. The researcher used a quantitative approach with panel data consisting of 11 manufacturing sectors over 21 time periods, giving a total of 231 observations. Based on the Chow test, Hausman test, and Lagrange Multiplier test, the Random Effect Model (REM) was selected for estimation. The study includes several independent variables: trade tariffs (representing the trade war), China's GDP, Indonesia's inflation rate, the rupiah exchange rate, the Wholesale Price Index (WPI), export competitiveness (RCA), and Foreign Direct Investment (FDI). The findings reveal that trade tariffs had a negative and significant effect on Indonesia's manufacturing exports to China, while China's GDP showed no significant impact. Indonesian inflation also had a negative and significant effect, whereas the exchange rate had a positive and significant impact. Additionally, WPI, RCA, and FDI all had positive and significant effects on Indonesia's manufacturing exports to China. Overall, all variables collectively had a significant impact, with an F-statistic value of 70.43. The model explains 68.86% of the variation in Indonesia's manufacturing exports to China.

**Keywords:** Manufacturing Exports; Panel Data; Random Effects Model; Trade Tariffs; Trade War.

### 1. INTRODUCTION

Indonesia's manufacturing sector is the key pillar of the country's economy. Based on data from the Central Statistics Agency (BPS), it accounted for 18.67% of the national GDP in 2023, representing the biggest share among all economic sectors (BPS, 2024). For over a decade, China has been Indonesia's largest trading partner in international trade. The total value of bilateral trade between Indonesia and China reached USD 149.9 billion in 2022, accounting for 25.24% of Indonesia's total trade. However, this value declined to USD 139.42 billion in 2023 due to the global economic slowdown (China Briefing, 2024). China's strategic position as a major export destination makes the dynamics of bilateral trade relations between the two countries a crucial factor influencing the overall performance of Indonesia's manufacturing exports (Rossa & Natsir, 2026).

Amid these increasingly close bilateral trade ties, significant external pressure has emerged in the form of an escalating trade war between the United States (U.S.) and China. This trade war officially began in 2018 when President Donald Trump's administration imposed billions of dollars in import tariffs on Chinese products in response to trade practices deemed unfair. China then retaliated by raising tariffs on U.S. products. These tensions continued and escalated through a series of incremental tariff hikes, creating significant uncertainty in the global trading system (M. R. , Taufikurahman & Firdaus, 2019). The U.S.-

China trade war is not merely a bilateral conflict between the world's two largest economic powers; rather, it has evolved into a systemic shock affecting the entire global supply chain and trade flows among third countries, including Indonesia (Jong, 2022; Agusandara et al., 2026).

For Indonesia, the impact of the U.S.-China trade war is complex and multifaceted. Approximately 41% of Indonesia's exports are linked to global production networks, with the U.S. and China as its two main trading partners (Damuri & Soedjito, 2022). A simulation study shows that a 25% U.S.-China bilateral tariff could potentially reduce Indonesia's indirect exports by up to USD 300 million due to a decline in demand for inputs from China (Damuri & Soedjito, 2022). On the other hand, a number of studies have also identified the potential for trade diversion, which could benefit Indonesia if it is able to capitalize on the relocation of production from China to ASEAN countries (Pangestu, 2019). However, Indonesia's ability to reap the benefits of this shift in investment remains limited compared to Vietnam and Malaysia, which are considered to have a more conducive investment climate (Pangestu, 2019). This situation underscores the urgency of gaining a deeper understanding of the actual factors that influence Indonesia's manufacturing exports to the Chinese market amid the dynamics of the trade war (Nawwari et al., 2025; Wilujeng et al., 2025).

Indonesia's manufacturing exports to China have different characteristics compared to exports to other developed countries. As the world's largest manufacturing nation, China has a very strong domestic industrial capacity and a high ability to substitute imports. China's rapid economic growth does not necessarily lead to an increase in demand for manufactured goods from Indonesia, as the strengthening of China's domestic industry could potentially replace those imported goods (Ozcelik, 2024). This finding was subsequently confirmed by the results of this study, which showed that China's GDP had no significant impact on Indonesia's manufacturing exports to China. On the other hand, variables such as the rupiah exchange rate, Foreign Direct Investment (FDI), export competitiveness (RCA), and the Wholesale Price Index (WPI) have actually proven to play a more decisive role in driving Indonesia's manufacturing exports to the Chinese market (Sulistiyowati & Pratama, 2023; Musdalifah et al., 2025).

Previous studies have examined the impact of the U.S.-China trade war on the Indonesian economy from various perspectives. (M. R. , Taufikurahman & Firdaus, 2019) Using a GTAP simulation, it was found that Indonesia's exports declined by approximately 0.24% as a result of the trade war. (Jong, 2022) concludes that the trade war has had a negative impact on Indonesia's exports due to disruptions in global supply chains. Sulistiyowati dan Pratama

(2023) found that the trade war simultaneously affects Indonesia's exports, imports, interest rates, and inflation. Meanwhile, (Damuri & Soedjito, 2022) emphasizes that U.S. tariffs on China have spillover effects on Indonesia through global production networks. However, these studies have not specifically analyzed the determinants of Indonesia's leading manufacturing sector exports to China over the long term (2003-2023) by incorporating tariff, macroeconomic, competitiveness, and investment variables into a single integrated model.

Given this research gap, this study offers distinct methodological and empirical contributions. First, this study uses continuous trade tariff variables as a proxy for the trade war, unlike the dummy variable approach commonly used in previous studies. This approach allows for a more precise measurement of the intensity of the trade war, given that the escalation of U.S.-China tariffs occurred gradually.

Second, this study simultaneously integrates seven determinant variables-including tariffs, China's GDP, inflation, exchange rates (KURS), IHPB, export competitiveness (RCA), and FDI-within a panel data analysis framework covering 11 leading manufacturing sectors and 21 time periods (2003-2023) with a total of 231 observations. Thus, the objective of this study is to analyze the effects of trade tariffs, China's GDP, domestic inflation, the rupiah exchange rate, the IHPB, export competitiveness (RCA), and FDI on Indonesia's leading manufacturing sector exports to the Chinese market during the 2003-2023 period using the Random Effects Model (REM).

## **2. REVIW OF THE LITERATURE**

The theory of comparative advantage (Ricardo) explains that trade occurs due to differences in relative efficiency among countries. In the context of Indonesia's manufacturing exports to China, Indonesia has a comparative advantage in products based on natural resources and labor. However, China, as a country with a highly advanced manufacturing industry, has a high capacity for domestic substitution, so China's economic growth does not necessarily lead to an increase in imports from Indonesia.

The export supply theory states that a country's export capacity is influenced by domestic production capacity, relative price levels, and product competitiveness. The IHPB, as a wholesale price indicator, reflects the production capacity and activity of the manufacturing sector, which is a key determinant of exports to China.

### 3. METODE PENELITIAN

This study uses a quantitative approach with an associative research design to examine the relationship between independent and dependent variables. The analysis is based on secondary data collected from reliable sources, including the Central Bureau of Statistics (BPS), Bank Indonesia, the World Bank, UNCTAD, and WITS, covering annual data for the period 2003–2023. The variables used consist of Indonesia's Leading Manufacturing Exports (Y), Trade War Tariffs (X1), U.S. GDP (X2), Inflation (X3), Exchange Rate (X4), IHPB (X5), Competitiveness (X6), and FDI (X7), with all data expressed in numerical units that allow for multiple linear regression analysis using the (GLS) *Generalized Least Square* (Gujarati & Porter, 2009).

The data analysis techniques used in this study aim to measure how much each independent variable affects coal export volume. To ensure the reliability of the model, classical assumption tests were conducted, which included tests for normality, multicollinearity, autocorrelation, and heteroscedasticity.

However, in a statement (Gujarati & Porter, 2009) The use of Generalized Least Squares (GLS)-based models, such as the Random Effects Model (REM), automatically addresses issues of autocorrelation and heteroscedasticity; the GLS method performs internal transformations that automatically handle these issues in panel data. Therefore, the parameters estimated using the GLS method in the Random Effects Model are considered to remain Best Linear Unbiased Estimators (BLUE) without requiring traditional classical assumption tests, as is the case with the OLS method. Next, hypothesis testing was conducted using a simultaneous test (F-test) and a partial test (t-test) to assess the significance of the relationship between the variables. The time-series data, comprising 231 annual observations, allowed for an in-depth analysis of Indonesia's leading manufacturing exports to the United States (Ghozali, 2016).

Operational definitions of variables are formulated in a measurable manner so that each indicator can be accurately observed and analyzed. Exports are measured in USD value based on data from WITS; manufacturing exports in USD; trade terms in percent; GDP in percent; inflation in percent; the USD exchange rate; the IHPB as an index; competitiveness as an index; and FDI in millions of USD. Data is collected from various official agencies and scientific publications to serve as the basis for analysis and interpretation of research results (Nurdin & Dra Sri Hartati, 2017).

#### 4. RESULT AND DISCUSSION

##### Results of Multiple Linear Regression Analysis

The analytical model used in this study is multiple linear regression. Multiple linear regression is an analytical method used to determine the effect of independent variables-namely trade tariffs (X1), U.S. GDP (X2), inflation (X3), exchange rates (X4), IHPB (X5), competitiveness (X6), and FDI (X7) on the dependent variable, namely Indonesia's exports of leading manufactured goods to China (Y).

**Table 1.** Multiple Linear Regression Analysis.

| Variable           | Coefficient | Std. Error | t-Statistic | Prob.  |
|--------------------|-------------|------------|-------------|--------|
| C                  | -1.318070   | 1.148899   | -1.147247   | 0.2525 |
| X1_TARIF           | -0.284863   | 0.131420   | -2.167573   | 0.0313 |
| X2_GDP             | -0.004849   | 0.027027   | -0.179401   | 0.8578 |
| X3_INF             | -0.044232   | 0.007535   | -5.870389   | 0.0000 |
| X4_KURS            | 1.650866    | 0.262543   | 6.287796    | 0.0000 |
| X5_IHPEB           | 0.001263    | 0.000523   | 2.415373    | 0.0165 |
| X6_DY              | 0.169303    | 0.014310   | 11.83091    | 0.0000 |
| X7_FDI             | 0.099363    | 0.021730   | 4.572676    | 0.0000 |
| R-squared          |             | 0.688553   |             |        |
| Adjusted R-squared |             | 0.678777   |             |        |
| S.E. of regression |             | 0.228731   |             |        |
| F-statistic        |             | 70.43048   |             |        |
| Prob(F-statistic)  |             | 0.000000   |             |        |
| R-squared          |             | 0.688553   |             |        |

Source: Eviews 12, 2026 (Data Processed)

Based on the estimation results in the table, the following regression equation is obtained:

$$(EKS)Idn \rightarrow China_{it} = -1.318 - 0.284Tarif_{it} - 0.004GDP_{it} - 0.044INF_{it} + 1.650KURS_{it} + 0.001IHPB_{it} + 0.169DY_{it} + 0.099FDI$$

The estimation results show the values of each regression coefficient, or the effect of the independent variables on the dependent variable. The constant (C) value of -1.318070 indicates that if the variables trade tariffs (TARIF), GDP (Gross Domestic Product), inflation (INF), exchange rate (KURS), the Wholesale Price Index (IHPB), the competitiveness index (DY), and Foreign Direct Investment (FDI) are considered constant (equal to zero), then the value of Indonesia's exports to China is -1.318070, *ceteris paribus*.

The coefficient value for the trade tariff (TARIF) variable, which is -0.284863, indicates that a 1 percent increase in trade tariffs will reduce Indonesia's exports to China by 0.284863 percent, assuming all other variables remain constant (*ceteris paribus*).

The coefficient value for the GDP (Gross Domestic Product) variable, which is -0.004849, indicates that a 1 percent increase in GDP will reduce Indonesia's exports to China by 0.004849 percent, assuming all other variables remain constant (*ceteris paribus*).

The value of the inflation coefficient (INF) of -0.044232 indicates that a 1 percent increase in inflation will reduce Indonesia's exports to China by 0.044232 percent, assuming all other variables remain constant (*ceteris paribus*).

The exchange rate coefficient (KURS) of 1.650866 indicates that a 1 percent increase in the exchange rate will increase Indonesia's exports to China by 1.650866 percent, assuming all other variables remain constant (*ceteris paribus*).

The coefficient value of the Wholesale Price Index (WPI) variable, which is 0.001263, indicates that a 1 percent increase in the WPI will increase Indonesia's exports to China by 0.001263 percent, assuming all other variables remain constant (*ceteris paribus*).

The coefficient value of the competitiveness index (DY) variable, which is 0.169303, indicates that a 1 percent increase in the RCA competitiveness index will increase Indonesia's exports to China by 0.169303 percent, assuming all other variables remain constant (*ceteris paribus*).

The coefficient value for the Foreign Direct Investment (FDI) variable, 0.099363, indicates that a 1 percent increase in Foreign Direct Investment will increase Indonesia's exports to China by 0.099363 percent, assuming all other variables remain constant (*ceteris paribus*).

### **Test of the Coefficient of Determination ( $R^2$ )**

The coefficient of determination ( $R^2$ ) measures how well a panel data regression model fits the data. It shows the percentage of variation in the dependent variable that can be explained by the independent variables. The value of  $R^2$  ranges from 0 to 1. A higher  $R^2$  value, particularly one that approaches 1, indicates that the model is more accurate and has a stronger explanatory power over the dependent variable.

The Random Effects regression model, as shown in the table of estimation results, yields a coefficient of determination ( $R^2$ ) of 0.688553 and an adjusted  $R^2$  of 0.678777. This indicates that the variables trade tariffs (TARIF), Gross Domestic Product (GDP), inflation (INF), exchange rate (KURS), Wholesale Price Index (IHPB), Revealed Comparative Advantage (RCA) competitiveness index, and Foreign Direct Investment (FDI) account for 68.86% of the variation in the value of Indonesia's manufacturing exports to China. Meanwhile, the remaining 31.14% is explained by other variables outside the research model.

Thus, the use of the Random Effects Model in this study is considered sufficiently capable of capturing data variation, albeit not entirely, while maintaining estimation efficiency without significantly reducing the degrees of freedom. This model suggests that the factors used make a moderate contribution to explaining the dynamics of Indonesia's manufacturing exports to these two destination countries.

### Uji F

The F-test determines whether the independent variables in the model collectively influence the dependent variable.

**Table 2.** of F-Statistic Test Results: Indonesia to China.

| <b>df(k-1;n-k)</b> | <b>f-Statistics</b> | <b>F-tabel</b> | <b>Probabiliy</b> | <b>Conclusion</b>      |
|--------------------|---------------------|----------------|-------------------|------------------------|
| 7;223              | 70.43048            | 2.06           | 0.0000            | H <sub>0</sub> Ditolak |

Based on Table, the results of the F-test for Indonesia to China show that the F-statistic, as seen in the table above, is 70.43048. This figure exceeds the critical F-value of 2.06 at a 5% significance level and a confidence level or degrees of freedom (df) of 7;223. Furthermore, the probability value of 0.0000 is smaller than the alpha value of 0.05. This implies that the null hypothesis (H<sub>0</sub>) is rejected and the alternative hypothesis (H<sub>a</sub>) is accepted. Therefore, it can be concluded that the independent factors collectively influence the dependent variable, namely the value of Indonesia's manufacturing sector exports to China.

### Uji T (Hypothesis)

**Table 3.** Uji T (Hypothesis).

| <b>Variabel</b> | <b>t-statistic</b> | <b>t-tabel (<math>\alpha=5\%</math>)</b> | <b>Probability</b> | <b>Conclusion</b>       |
|-----------------|--------------------|------------------------------------------|--------------------|-------------------------|
| TARIF           | -2.16757           | 1.970                                    | 0,03               | H <sub>0</sub> Rejected |
| GDP             | -0,17940           | 1.970                                    | 0,8578             | H <sub>0</sub> Accepted |
| INFLASI         | -5.870389          | 1.970                                    | 0,0000             | H <sub>0</sub> Rejected |
| KURS            | 6.287976           | 1.970                                    | 0,0000             | H <sub>0</sub> Rejected |
| IHPB            | 2.415373           | 1.970                                    | 0,0165             | H <sub>0</sub> Rejected |
| DY              | 11.83091           | 1.970                                    | 0,0000             | H <sub>0</sub> Rejected |
| FDI             | 4.572676           | 1.970                                    | 0,0000             | H <sub>0</sub> Rejected |

*Source: Eviews 12, 2026 (Data Processed)*

TARIFF (t = -2.16757 | p = 0.03) has a negative and significant effect. The negative sign indicates that any increase in US-China trade war tariffs will reduce Indonesia's manufacturing exports to the US. Although significant, the t-value is relatively small compared to other variables, meaning its effect is statistically weaker. This makes sense because US tariffs are directed specifically at Chinese products, not at Indonesia; thus, the impact on Indonesia is indirect, arising from disruptions in global supply chains and trade diversion.

GDP ( $t = -0.17940 \mid p = 0.8578$ ) has no significant effect. Although negative, the very small t-statistic value and a probability far above 0.05 indicate that GDP growth has no real effect on Indonesia's manufacturing exports to the US during the study period. This is likely due to the presence of other, more dominant structural factors in determining export performance, so that changes in GDP are not directly reflected in the volume of manufacturing exports.

INFLATION ( $t = -5.870389 \mid p = 0.0000$ ) has a negative and significant effect. The negative sign indicates that an increase in Indonesia's domestic inflation rate will reduce the competitiveness of manufacturing exports to the US. The relatively large t-statistic value indicates that the effect is statistically significant. High inflation drives up production costs, making the prices of Indonesian export products less competitive in international markets, which ultimately reduces export volumes.

The exchange rate ( $t = 6.287976 \mid p = 0.0000$ ) has a positive and significant effect. The positive sign indicates that a depreciation of the Rupiah against the US Dollar will increase Indonesia's manufacturing exports to the US. The large t-statistic value reflects the strength of this variable's influence. When the Rupiah weakens, the prices of Indonesian export products become cheaper in the eyes of US buyers, thereby increasing demand and the competitiveness of Indonesian exports in the global market.

The IHPB ( $t = 2.415373 \mid p = 0.0165$ ) has a positive and significant effect. The positive sign indicates that an increase in the Wholesale Price Index (IHPB) drives an increase in Indonesia's manufacturing exports to the US. This suggests that rising prices of commodities and traded goods in general also boost the value of Indonesia's manufacturing exports. Although significant, its t-value is relatively lower compared to the variables KURS, DY, and FDI, so its effect is moderate.

DY ( $t = 11.83091 \mid p = 0.0000$ ) has a positive and significant effect. The DY variable has the highest t-statistic value among all variables, making it the most dominant variable with the strongest statistical influence. The positive sign indicates that an increase in U.S. income or domestic demand directly drives an increase in Indonesian manufacturing exports to the U.S. This is consistent with export demand theory—the higher the purchasing power and economic activity of the export destination country, the greater the opportunity for Indonesian exports to be absorbed in that market.

FDI ( $t = 4.572676 \mid p = 0.0000$ ) has a positive and significant effect. The positive sign indicates that an increase in Foreign Direct Investment (FDI) flows to Indonesia will drive an increase in manufacturing exports to the U.S. The inflow of foreign investment increases production capacity, technology transfer, and Indonesia's integration into global supply chains,

thereby directly strengthening the export capabilities of the manufacturing sector. The substantial t-statistic confirms that FDI is one of the primary drivers of Indonesia's manufacturing exports.

### **Discussion of Research Findings**

#### **The Impact of Tariffs on Indonesia's Manufacturing Exports to China.**

The results of the study show that the trade tariff variable (TARIF) has a negative coefficient of -0.284, meaning that every 1 percent increase in trade tariffs during the U.S.-China trade war will reduce Indonesia's manufacturing exports to China by 0.284 percent, *ceteris paribus*. These results indicate that the escalation of the trade war between the United States and China has a negative impact on Indonesia's manufacturing exports to China. Theoretically, these findings align with international trade theory, which states that tariffs act as trade barriers capable of reducing international trade volumes and disrupting global trade stability. In the context of the U.S.–China trade war, tariff increases lead to a decline in global trade, a slowdown in global industrial activity, and disruptions to the global supply chain, thereby affecting third countries such as Indonesia.

According to Salvatore (2013) in the book *International Economics*, high tariffs can reduce international trade flows by raising the prices of goods, reducing demand for imports, and creating instability in global trade. These effects are felt not only by countries directly involved in trade wars but also by other trading partners. The findings of this study are also supported by previous research, research (M. R. Taufikurahman & Firdaus, 2019) One of the key findings of this study is that Indonesia's exports have continued to decline by approximately 0.24% as a result of the trade war. The findings (Jong, 2022) indicate that the U.S.-China trade war has had a negative impact on Indonesia's exports through disruptions in global supply chains. Indonesia's reliance on intermediate goods exports means that a decline in demand from the United States and China directly undermines the export performance of Indonesia's manufacturing sector.

#### **The Impact of GDP on Indonesia's Manufacturing Exports to China**

The results of the study show that the Gross Domestic Product (GDP) variable has a negative coefficient of -0.004, meaning that a 1 percent increase in China's GDP will reduce Indonesia's manufacturing exports to China by 0.004 percent, *ceteris paribus*. These results indicate that China's economic growth during the study period was actually followed by a decline in Indonesia's manufacturing exports to China.

Theories of industrialization also support the findings of this study. According to Todaro and Smith (2015) in their book *Economic Development*, a country's economic growth accompanied by industrialization can increase national production capacity and strengthen domestic industries. In the context of China, high GDP growth has driven an increase in the production capacity of the domestic manufacturing sector, thereby reducing the need to import manufacturing materials from other countries

The findings of this study are supported by (Ozcelik, 2024) which states that China's economic growth has been accompanied by an increase in production capacity and the competitiveness of the domestic manufacturing sector. These developments have made China increasingly capable of meeting the needs of its domestic market through domestic production, thereby reducing its reliance on manufactured goods imported from other countries. Consequently, growth in China's GDP does not necessarily drive an increase in Indonesia's manufacturing exports; in fact, it may even suppress Indonesia's exports due to the growing strength of China's industrial capacity to produce competitive manufactured goods.

#### **The Impact of Inflation on Indonesia's Manufacturing Exports to China.**

The study findings reveal that the inflation variable (INF) has a negative coefficient of -0.044. This means that a 1% increase in Indonesia's inflation rate would lead to a 0.044% decrease in Indonesia's manufacturing exports to China, assuming other factors remain constant. These results suggest that higher domestic inflation can weaken the competitiveness of Indonesia's manufacturing exports in the Chinese market.

The findings of this study are consistent with those of (Sumiyati, 2020) who states that inflation is one of the factors that can hinder the performance of manufacturing exports. Rising inflation causes domestic production costs to increase, which in turn drives up the prices of export products and reduces the competitiveness of Indonesian manufactured goods in international markets. Therefore, rising inflation in Indonesia has the potential to suppress manufacturing exports to China because Indonesian products become less competitive compared to products from other countries as well as domestic Chinese products.

The findings of this study are supported by previous research conducted by (Prirayani, 2025) which found that inflation has a negative and significant impact on the export growth of ASEAN countries. The study explains that rising inflation increases production costs and domestic prices, thereby reducing the competitiveness of products in international markets. Consequently, export products become relatively more expensive compared to products from competing countries, leading to a decline in export demand. Therefore, rising inflation in

Indonesia could reduce the competitiveness of Indonesia's manufacturing sector in the Chinese market and result in a decline in Indonesia's manufacturing exports to China.

### **The Impact of Exchange Rates on Indonesia's Manufacturing Exports to China**

The results of the study show that the exchange rate variable (KURS) has a positive coefficient of 1.650, meaning that a 1 percent increase in the exchange rate will increase Indonesia's manufacturing exports to China by 1.650 percent, *ceteris paribus*. In this study, an increase in the exchange rate reflects the depreciation of the rupiah against the U.S. dollar. This condition makes the prices of Indonesian export products relatively cheaper in the international market, thereby enhancing the competitiveness of Indonesian manufactured goods in the Chinese market.

In theory, the findings of this study are consistent with international trade theory and exchange rate theory, which state that a depreciation of a country's domestic currency can boost its exports. When the rupiah weakens, the prices of Indonesian exports become more competitive for importing countries because they can be purchased at a relatively lower price in foreign currency.

The findings of this study are consistent with (Kadek Ryan Selwy Fernanda & Ni Ketut Budiningsih, 2025) which indicates that the exchange rate has a positive and significant effect on Indonesia's exports to China. The depreciation of the rupiah makes Indonesian products cheaper in foreign currency, thereby enhancing their competitiveness in international markets. Thus, the positive exchange rate coefficient of 1.650 in this study indicates that the weakening of the rupiah is able to increase Indonesia's manufacturing exports to China because Indonesian manufactured goods become more competitive compared to products from other countries in the Chinese market.

### **The Impact of the IHPB on Indonesia's Manufacturing Exports to China.**

The results of the study show that the Wholesale Price Index (WPI) variable has a positive coefficient of 0.001, meaning that a 1 percent increase in the WPI will increase Indonesia's manufacturing exports to China by 0.001 percent, *ceteris paribus*. These results indicate that price increases at the wholesale or domestic producer level are still followed by an increase in Indonesia's manufacturing exports to China

This is supported by research findings (Robe'nur, 2024) shows that there is a fairly strong positive relationship between the IHPB and Indonesian rubber exports, with a correlation coefficient of 0.596635. This finding suggests that an increase in the IHPB tends to be followed by an increase in the volume of Indonesian rubber exports. In other words, rising prices at the wholesale level may reflect increased trade activity and demand for export commodities

### **The Impact of the RCA on Indonesia's Manufacturing Exports to China.**

The results of the study indicate that the Revealed Comparative Advantage (RCA) competitiveness index variable has a positive coefficient of 0.169, meaning that a 1 percent increase in the RCA competitiveness index will increase Indonesia's manufacturing exports to China by 0.169 percent, *ceteris paribus*. These results indicate that the higher the comparative competitiveness of Indonesia's manufacturing sector, the greater Indonesia's ability to increase exports to the Chinese market. Theoretically, these findings align with the theory of comparative advantage proposed by David Ricardo. The theory states that a country will gain from international trade if it exports products in which it has a comparative advantage over other countries.

This study is consistent with (Sabaruddin, 2013) which states that comparative advantage is a key factor determining a country's export success. The study indicates that the growth in the competitiveness of Indonesia's manufacturing sector has driven an increase in the sector's role in national exports. Therefore, the positive RCA coefficient of 0.169 in this study indicates that an increase in the comparative competitiveness of Indonesian manufactured goods will enhance their ability to compete in the Chinese market, so that Indonesian manufacturing exports to China are likely to increase as the RCA value rises.

### **The Impact of FDI on Indonesia's Manufacturing Exports to China.**

The results of the study indicate that the Foreign Direct Investment (FDI) variable has a positive coefficient of 0.099, meaning that a 1 percent increase in Foreign Direct Investment will increase Indonesia's manufacturing exports to China by 0.099 percent, *ceteris paribus*. These results suggest that an increase in foreign direct investment can drive an increase in Indonesia's manufacturing exports to the Chinese market.

The findings of this study are supported by research (Hadin et al., 2015) which found that Foreign Direct Investment (FDI) has a positive and significant impact on Indonesia's manufacturing exports. The study explains that the inflow of foreign direct investment can increase production capacity, promote technology transfer, and improve the efficiency of the manufacturing industry, thereby enhancing Indonesia's ability to produce export goods. Consequently, an increase in FDI will strengthen the performance of the manufacturing sector and drive an increase in Indonesia's manufacturing exports to China.

The findings of this study are consistent with (Sobita et al., 2025) which states that Chinese FDI plays a positive role in driving Indonesia's economic activity through increased capital accumulation, technology transfer, and the strengthening of the productive sector. The inflow of foreign investment enables the manufacturing industry to obtain additional capital

and technology that improve efficiency and production capacity. Therefore, the positive FDI coefficient of 0.099 in this study indicates that an increase in foreign direct investment can strengthen the competitiveness of Indonesia's manufacturing sector and boost Indonesia's manufacturing exports to China.

## 5. CONCLUSION AND RECOMMENDATIONS

Based on the results of a panel data regression analysis using the Random Effects Model (REM) on Indonesia's leading manufacturing sector exports to China for the period 2003–2023, the following conclusions can be drawn.

1. In the simultaneous test (F-test), the variables of trade tariffs, China's GDP, inflation, exchange rate (KURS), IHPB, competitiveness (RCA), and FDI collectively have a significant effect on Indonesia's leading manufacturing sector exports to China, with an F-statistic of 70.43 and a p-value of 0.0000. The model explains 68.86% of the variation in Indonesia's manufacturing exports to China.
2. For a partial test (t-test), the procedure is as follows:
  - a. Trade tariffs have a partial, negative, and significant impact on exports from Indonesia's leading manufacturing sectors to China. Any increase in tariffs resulting from the U.S.-China trade war will reduce Indonesia's manufacturing exports to China, as tariff escalations disrupt global supply chains and suppress demand for raw materials and manufactured goods from partner countries such as Indonesia
  - b. China's GDP has had no significant impact on Indonesia's leading manufacturing exports to China. In fact, China's economic growth has been accompanied by the strengthening of its domestic manufacturing industry, so that its reliance on manufactured goods imported from Indonesia has tended to decline rather than increase.
  - c. Inflation has a partially negative and significant impact on exports from Indonesia's leading manufacturing sectors to China. Rising domestic inflation increases production costs, making the prices of Indonesian export products less competitive in the Chinese market compared to products from other countries as well as Chinese domestic products themselves.
  - d. The exchange rate has a partial, positive, and significant impact on exports from Indonesia's leading manufacturing sectors to China. The depreciation of the rupiah against the U.S. dollar makes Indonesian export products relatively cheaper in the

Chinese market, thereby increasing their competitiveness and demand for Indonesian manufactured goods.

- e. The Wholesale Price Index (WPI) has a partially positive and significant impact on exports from Indonesia's leading manufacturing sectors to China. An increase in the WPI reflects rising domestic production and trade activity, thereby driving an increase in the capacity and value of Indonesia's manufacturing exports to China.
- f. Export competitiveness (RCA) has a partially positive and significant effect on exports from Indonesia's leading manufacturing sectors to China. The higher the RCA value of a manufacturing sector, the greater Indonesia's ability to compete and increase its export share in the Chinese market, in accordance with Ricardo's principle of comparative advantage.
- g. Foreign Direct Investment (FDI) has a partially positive and significant impact on Indonesia's leading manufacturing sector exports to China. The inflow of foreign direct investment increases production capacity, promotes technology transfer, and strengthens Indonesia's integration into global supply chains, thereby boosting manufacturing exports to China.

Based on these findings, the government is advised to maintain the stability of the rupiah exchange rate and domestic inflation to preserve the competitiveness of Indonesia's manufactured exports in global markets, including the Chinese market. Additionally, efforts to improve the investment climate must continue to attract more FDI into leading export-oriented manufacturing sectors. Manufacturing industry players are also encouraged to improve production efficiency and product innovation so that the RCA value continues to increase, thereby strengthening Indonesia's position in the Chinese market. On the trade policy front, the government needs to strengthen economic diplomacy with China to anticipate the ongoing impact of the U.S.-China trade war, which has the potential to continue and affect bilateral trade flows between Indonesia and China.

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