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Assessing the Long-Term and Short-Term Influences on Trade Value in Indonesia: Evidence from Economic, Industrial, and Monetary Factors

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ABSTRACT

This study aims to analyse the impact of economic growth, inflation, exchange rates, industrial added value, and investment on Indonesia's trade value in the period 1989-2022. The data used were sourced from the World Development Indicators and analysed using the Error Correction Model (ECM) approach. The results of the study show that economic growth has a negative influence on the value of trade, both in the short and long term. On the other hand, inflation, the rupiah exchange rate against the dollar, industrial value-added, and investment have a positive influence on trade value, both in the short and long term. Based on these findings, policies that can be taken to increase Indonesia's trade value include: first, more stable economic policies to reduce the negative impact of economic growth on trade; second, monetary policy that can control inflation and maintain the stability of the rupiah exchange rate against the dollar; third, strengthening the industrial sector by encouraging investment and increasing industrial added value to increase export competitiveness; and fourth, policies that support a better investment climate to attract sustainable domestic and foreign investment. This research provides important insights for policymakers in formulating economic strategies that can support the increase in the value of Indonesia's trade in the global market.

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INTRODUCTION

International trade is one of the main pillars in the Indonesian economy. As a developing country, Indonesia faces challenges to maintain and improve its international trade performance. Many factors affect the trade value of a country, such as economic growth, exchange rates, investment, and industrial value-added. Although many previous studies have examined the influence of these variables on trade, the results are still contradictory and depend on the context of each country and the period analysed.

Economic growth has a very important role in increasing the value of trade. Several studies show that stable economic growth can increase domestic and international demand for a country's products, thereby increasing exports (Sun & Heshmati, 2010; Irwin, 2019). However, in some cases, economic growth that is too fast can trigger economic inequality and increase dependence on imports, which can ultimately reduce the value of trade (Zahonogo, 2016). Therefore, it is important to understand the relationship between economic growth and trade value in Indonesia, both in the short and long term.

In addition, exchange rates have a significant influence on international trade. Exchange rate changes can affect the competitiveness of domestic products in the international market. In the Indonesian context, fluctuations in the rupiah exchange rate against the US dollar often have a direct impact on export and import performance (Adam, et al., 2017; Ardiyanti, 2015). A strengthening exchange rate can increase foreign purchasing power for Indonesian goods, while a weakening exchange rate can reduce this purchasing power. Therefore, the relationship between the exchange rate and Indonesian trade needs to be analysed more deeply to provide a clearer picture.

Industry value added also plays an important role in increasing trade value. Countries with strong industrial sectors tend to have higher competitiveness in the international market (Koopman, et al., 2008). Adding value to domestic industrial products can increase non-oil and gas exports and diversify products offered to international markets (Onuorah, 2018). However, although the Indonesian industry has great potential, challenges in improving quality and productivity are still obstacles (Sandee, 2016).

In addition, investment is one of the key factors that can affect the value of a trade. Investment in the infrastructure, technology, and human resources sectors can increase the country's production and export capacity (Alemu, 2013; Shiferaw, 2017). Previous research has shown that increased investment, both foreign and domestic, can encourage an increase in exports and improve Indonesia's trade performance (Rahmaddi & Ichihashi, 2012; Rahmaddi & Ichihashi, 2012).

This study uses data for the period 1989-2022 to analyse the influence of economic growth, exchange rates, industrial added value, and investment on Indonesia's trade value. The Error Correction Model (ECM) approach is used to identify the dynamics of the short-term and long-term relationships between these variables. The ECM model can help understand how these variables interact with each other and contribute to Indonesia's trade adjustment to the imbalances that occur, as well as provide insight into policies that can be taken by the government to improve Indonesia's trade competitiveness in the international market.

Based on this description, this study aims to analyse the impact of economic growth, exchange rates, industrial added value, and investment on trade value in Indonesia during the period 1989-2022. This study is expected to provide a deeper insight into the short-term and long-term relationships between these variables, using the Error Correction Model (ECM) approach. This model was chosen for its ability to capture short- and long-term dynamics, as well as provide a clearer picture of how these economic variables interact in the Indonesian context.

In addition, this research also aims to contribute to the existing literature, especially related to the Indonesian economy and international trade. This research can be considered for policymakers in formulating more effective strategies to increase Indonesia's trade competitiveness in the global market, considering influential economic factors.

THEORETICAL FRAMEWRK

This research focuses on the relationship between economic growth, exchange rate, industrial value-added, and investment to trade value in Indonesia. For this reason, the theoretical framework used refers to basic concepts in international economics, with an emphasis on how each of these variables can affect trade performance.

Economic Growth and Trade the Aggregate Demand Theory explains that stable economic growth will increase people's purchasing power, both domestic and international, which will increase the demand for goods and services in a country (Mankiw & Taylor, 2020). In the context of international trade, economic growth can strengthen export competitiveness through increased production and innovation. However, there is a risk of dependence on imports if high economic growth is not balanced by an increase in domestic production capacity (Breinlich, et al., 2022).

Exchange Rates and Trade the Purchasing Power Parity (PPP) theory explains that exchange rates fluctuate to adjust to price differences between countries. This theory suggests that changes in exchange rates can affect the competitiveness of export products (Umeaduma & Dugbartey, 2023). If the domestic exchange rate weakens, then export goods will be cheaper in the international market, increasing exports. On the other hand, if the exchange rate strengthens, exports can be hampered because the price of Indonesian goods becomes more expensive for foreign consumers (Auboin & Ruta, 2013).

Industrial and Trade Added Value The theory of comparative advantage states that the state will focus more on sectors that have advantages in terms of resources or production efficiency. High added value in the industrial sector can increase the competitiveness of products in the international market (Danilina, & Mingaleva, 2014; Carolina, 2021). Increasing productivity in the industrial sector through technology and innovation can increase the contribution of non-oil and gas exports and increase a country's international trade (Fatima, et al., 2022).

Investment and Trade The theory of investment and trade states that investment, both foreign and domestic, can increase production capacity and encourage exports by increasing the quality and quantity of goods produced (Dykas, et al., 2023). Investment directed at the industrial and infrastructure sectors will improve the competitiveness of domestic products, so that it can increase trade and export volumes (Shinyekwa & Ntale, 2017; Dang & Pheng, 2015).

Several empirical studies have been conducted to analyse the relationship between these variables and international trade, with results varying based on the context of the country and the period analyzed. Economic Growth and Trade Research by Idris, et al (2016) found that stable economic growth contributes positively to increased exports and international trade in developing countries. However, Liu et al. (2020) suggest that rapid growth without being accompanied by a strengthening of the industrial sector can lead to dependence on imports, which has the potential to harm the trade balance.

Xie & Baek (2020) examined the effect of exchange rate fluctuations on exports in Southeast Asia and found that exchange rate depreciation increases the competitiveness of export products in international markets. In contrast, Thuy & Thuy (2019) show that exchange rate volatility can hamper exports, especially for countries that rely heavily on imports of capital goods.

Industrial Value Added and Trade Research by Foster, et al., (2011) shows that industrial sectors with high added value encourage diversification of export products and improve trade performance. This is also supported by research by Ogah, et al (2024) who found that the fast-growing industrial sector contributes greatly to the increase in exports in Indonesia and other developing countries.

Gamariel & Hove (2019) examined the relationship between foreign direct investment (FDI) and exports and found that FDI increases the production capacity and competitiveness of domestic products. Alemu (2013) also show that investment in infrastructure and technology can improve productivity and support export growth.

Use of Error Correction Model (ECM) Several studies that use ECM in the context of international trade include Lee & Fernando (2021) who found that ECM can provide a clearer picture of the short-term and long-term dynamics between economic variables, such as investment, and economic growth, on international trade.

Overall, the empirical results show that the relationship between economic variables and trade is not always linear. Therefore, it is important to understand the short-term and long-term impacts of each of the factors affecting international trade, especially in the Indonesian context. This study will make an additional contribution by using ECM to assess the dynamics of interaction between these variables (Basuki & Prawoto, 2019).

RESEARCH METHODOLOGY

The Error Correction Model (ECM) is used to analyze the short-term and long-term relationships between economic variables that affect trade value (Alogoskoufis & Smith, 1991). ECM makes it possible to identify long-term equilibrium relationships (cointegration) and short-term adjustments that occur when the system moves toward that equilibrium. In the context of this study, the ECM equation used aims to analyse the impact of economic growth, exchange rate, industrial value-added, and investment on trade value in Indonesia during the period 1989-2022. The following are the stages of the ECM equation that need to be performed for the model, accompanied by an explanation of the latest literature.

Before constructing the ECM equation, cointegration testing was first carried out to ensure that there was a long-term relationship between the analysed variables, namely economic growth (INF), exchange rate (LOG(ER)), industrial value added (LOG(IVA)), investment (LOG(INV)), and trade value (LOG(TRADE)). This cointegration test is important to ensure that despite short-term fluctuations, they still move towards long-term equilibrium. Research relevant to this stage is a study by Narayan and Popp (2021) which shows that cointegration testing is an important first step before building an ECM model for the analysis of long-term relationships between economic variables.

Long-Term Regression Models

LOG(TRADE)t = β0 + β1INFt + β2LOG(GDP)t + β3LOG(ER)t + β4LOG(IVA)t + β5 LOG(INV)t + ϵt

Where:

LOG(TRADE)	Trade value
INF	Inflation
LOG(GDP)	Logarithm of Gross Domestic Product (GDP)),
LOG(ER)	Logarithm exchange rate
LOG(IVA)	Logarithm Industrial added value
LOG(INV)	Investment logarithms
β0, β1, β2, β3, β4, β5	A regression coefficient that measures the impact of each variable on the value of the trade
εt	Error term

Once the long-term model is established, cointegration testing can be performed using the Engle-Granger Two-Step Method or Johansen Cointegration Test (Johansen, 2014). If there is cointegration between the variables tested, then it can be continued with the ECM model. The results of the cointegration test will result in a residual that is used to construct the ECM equation (Smyth & Narayan, 2015). Once the previous steps are in place, ECM can be built to handle both short-term and long-term dynamics. The ECM equation can be written in the following form:

$$\Delta LOG(TRADE)_t = \sigma + \sum_{i=1}^{p} 1\Delta INF_{t-1} + \sum_{i=1}^{p} \gamma 1 \Delta LOG(GDP)_{t-1 t-1} + \sum_{i=1}^{p} \gamma 1 LOG(ER) \sum_{i=1}^{p} \gamma 1 \Delta ILOG(IVA)_{t-1} + \sum_{i=1}^{p} \gamma 1 \Delta LOG(INV)_{t-1} + \gamma 1 ECT_{t-1} + \varepsilon t$$

Where:

Δ	Change or first difference of the variable,
α	Intercept or constant
γ1, γ2, γ3, γ4, γ5	Coefficients of changes of independent variables that measure short-term impacts
λ	Error Correction Term (ECT) coefficient that indicates the speed of adjustment back to long-term equilibrium
ECT (T-1)	Error correction term of the long-term model, obtained from residual cointegration testing

Sahoo & Sethi (2020) explain that a negative and significant ECT coefficient indicates that short-term imbalances can be corrected in the long term. Once the ECM model has been estimated, several diagnostic tests should be performed to ensure the validity of the model. Pan, et al (2018) state the importance of diagnostic testing in ensuring the reliability and validity of the ECM model used. Common tests include Autocorrelation Test (Breusch-Godfrey Serial Correlation LM Test), Heteroscedasticity Test (Breusch-Pagan-Godfrey), Normality Test (Jarque-Bera), and Model Specification Test (Ramsey RESET).

RESULTS AND DISCUSSION

Based on the results of the above stationary test, the data at the level (before differencing) is not stationary, as the p-values of the Levin, Lin & Chu t*, Im, Pesaran and Shin W-stat, ADF-Fisher Chi-square, and PP-Fisher Chi-square tests are all greater than 0.05, indicating that the data has a root unit.

However, after the first difference, the data became stationary because the p-values of all the stationary tests (both Levin, Lin & Chu t*, Im, Pesaran and Shin W-stat, ADF - Fisher Chi-square, and PP - Fisher Chi-square) were less than 0.05.

Table 1 Stationary Test on data level and First Difference

Series: TRADE, INF, GDP, INV, IVA, ER

Method	Data Level		Data First Diference		
	Statistic	Prob.**	Statistic	Prob.**	Obs
Levin, Lin & Chu t*	-0.151	0.440	-10.796	0.000	208
Im, Pesaran and Shin W-stat	0.639	0.739	-11.782	0.000	208
ADF - Fisher Chi-square	17.726	0.124	119.297	0.000	208
PP - Fisher Chi-square	17.841	0.121	145.080	0.000	210

Source: Data processed, 2023

Thus, the data is already qualified for use in the ECM model because the data must be stationary to ensure valid results in time series analysis.

Table 2. Long-Term Regression Results

Dependent Variable: LOG(TRADE)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
INF	0.0056	0.0014	3.9818	0.0004
LOG(GDP)	-1.5816	0.3426	-4.6161	0.0001
LOG(ER)	0.2616	0.0641	4.0796	0.0003
LOG(IVA)	1.3375	0.1976	6.7674	0.0000
LOG(INV)	0.7161	0.2453	2.9190	0.0066
C	7.1518	1.7011	4.2042	0.0002
R-squared	0.9879	Mean dependent var		14.7971
F-statistic	489.6182	Durbin-Watson stat		1.8033
Prob(F-statistic)	0.0000			

Source: Data processed, 2023

The coefficient in regression shows how much of a change is expected in a dependent variable (in this case, LOG(TRADE)) for every change of one unit in an independent variable, assuming the other variables remain constant.

1. INF (Inflation): The coefficient of 0.0056 indicates that if inflation increases by 1 unit, then the LOG(TRADE) value is expected to increase by 0.0056, assuming the other variables remain constant.
2. LOG(GDP) (Gross Domestic Product): The coefficient of -1.5816 indicates that a 1% increase in GDP will lead to a 1.5816% decrease in the value of LOG(TRADE).
3. LOG(ER) (Exchange Rate): The coefficient of 0.2616 indicates that a 1% increase in the exchange rate will increase the value of LOG(TRADE) by 0.2616%.
4. LOG(IVA) (Industrial Value Added): The coefficient of 1.3375 indicates that a 1% increase in industrial value added will increase the value of LOG(TRADE) by 1.3375%.
5. LOG(INV) (Investment): The coefficient of 0.7161 indicates that a 1% increase in investment will increase the value of LOG(TRADE) by 0.7161%.
6. C(Intercept): The coefficient of 7.1518 indicates the base value of LOG(TRADE) if all independent variables (INF, GDP, ER, IVA, INV) are zero.

Based on the results of this statistical test, all variables in the model (inflation, GDP, exchange rate, industrial value-added, and investment) have a statistically significant influence on Indonesia's trade value. The model also explains almost 99% of the variation in trade value, suggesting that it is excellent at predicting trade value.

Table 3. Cointegration Test Results

Null Hypothesis: ECT has a unit root

Exogenous: Constant

Lag Length: 3 (Automatic - based on SIC, maxlag=9)		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.08921	0.0002
Test critical values:	1% level	-3.65373	
	5% level	-2.95711	

*MacKinnon (1996) one-sided p-values.

In cointegration tests, ECT (Error Correction Term) is a term used to describe a component of a cointegration model that captures short-term imbalances between related variables and corrects them towards long-term equilibrium. In cointegration analysis, if two or more time series have a stable long-term relationship, then ECT is used to correct deviations from that balance. Here is an explanation of the results of the Augmented Dickey-Fuller (ADF) test on ECT: t-Statistic (-5.08921) is smaller than the critical value at the 1% level (-3.65373), which indicates that the t-statistic is more extreme than the critical value needed to reject the null hypothesis at the 1% significance level. Thus, we reject the zero hypothesis that ECT has a root unit. This means that ECT does not have root units, which indicates that ECT is stationary and the adjustment process towards long-term equilibrium is going well. The p-value (0.0002) is also very small (smaller than 0.05), which means that this result is statistically significant. In other words, we can very confidently reject the zero hypothesis and state that ECT has no root (stationary) unit.

The results of this test showed that ECT did not have a root unit, which means that the long-term relationships between variables in the cointegration model were stable. A short-term adjustment process to long-term equilibrium can occur, and the cointegration model used is valid. Therefore, the variables used in the model have a strong long-term relationship, and there is an adjustment mechanism that leads to equilibrium when deviations occur.

Table 4. Short-Term Regression Results

Dependent Variable: D(LOG(TRADE))				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(INF)	0.0041	0.0015	2.7280	0.0109
D(LOG(GDP))	-1.9445	0.4776	-4.0716	0.0003
D(LOG(ER))	0.3698	0.0858	4.3103	0.0002
D(LOG(IVA))	1.2724	0.3208	3.9665	0.0005
D(LOG(INV))	1.0047	0.1875	5.3586	0.0000
ECT(-1)	-0.9469	0.1819	-5.2064	0.0000
C	-0.0014	0.0176	-0.0820	0.9352
R-squared	0.8722	Mean dependent var	0.0500	
F-statistic	31.8400	Durbin-Watson stat	1.8184	
Prob(F-statistic)	0.0000			
Breusch-Godfrey Serial Correlation LM Test:				
F-statistic		1.725885	Prob	0.1978
Heteroskedasticity Test: Breusch-Pagan-Godfrey				
F-statistic		0.532759	Prob	0.7787
Jarque-Bera		7.83996	Prob	0.0198
Ramsey Reset Test (t Statistik)		0.49276	Prob	0.6262

Source: Data processed, 2023

Based on Table 4 the regression model attempts to explain the change (first difference) in the value of the trade (LOG(TRADE)) by using changes in several other economic variables, as well as the Error Correction Term (ECT) which describes the adjustment to the long-term equilibrium.

The coefficient of 0.0041 indicates that a 1 percent change in inflation is expected to increase the change in LOG(TRADE) by 0.0041 percent, assuming the other variables remain constant. Since the p-value (0.0109) is smaller than 0.05, changes in inflation have a significant influence on trading in the short term.

The coefficient of -1.9445 indicates that a 1% change in GDP is expected to lower the change in LOG(TRADE) by 1.9445%, assuming the other variables remain constant. The P-value (0.0003) indicates that this relationship is statistically significant. In other words, increasing GDP in the short term has a negative impact on trade.

The coefficient of 0.3698 indicates that a 1% increase in the exchange rate is expected to increase the change in LOG(TRADE) by 0.3698%, assuming the other variables remain constant. The P-value (0.0002) indicates that this relationship is statistically significant, which means that a higher exchange rate contributes positively to trading.

The coefficient of 1.2724 indicates that a 1% increase in industrial value added is expected to increase the change in LOG(TRADE) by 1.2724%, assuming other variables remain constant. The P-value (0.0005) indicates that the added value of the industry has a positive and significant influence on trade in the short term.

The coefficient of 1.0047 indicates that a 1% increase in investment is expected to increase the change in LOG(TRADE) by 1.0047%, assuming the other variables remain constant. A very small P-value (0.0000) indicates that the investment has a very significant influence on trading in the short term.

The coefficient of -0.9469 indicates that Error Correction Term (ECT) plays a role in correcting short-term imbalances to long-term equilibrium. Negative and significant ECT values indicate that the ECM model works well to return the system to long-term equilibrium after the presence of deviations. A very small P-value (0.0000) indicates that this error correction is statistically significant, which means that the deviation from the long-term equilibrium will be corrected in the short term.

Very small intercepts (-0.0014) and very large p-values (0.9352) indicate that the base value of D(LOG(TRADE)) is insignificant in this model. The r-squared of 0.8722 indicates that this model explains about 87.22% of the variation in trade changes (D(LOG(TRADE))). This means that the model is excellent at describing the variability of trades that can be explained by independent variables. The high F-statistic value and very small p-value indicate that the overall model is statistically significant, meaning that at least one of the independent variables has a significant influence on trade changes.

The results of the test of the classical assumption of the short-term equation are as follows: The value of the Breusch-Godfrey Serial Correlation LM Test F-statistic: 1.7259 with probability: 0.1978, this result reflects a P-value greater than 0.05 indicating that there is no autocorrelation problem in the model. Heteroskedasticity Test (Breusch-Pagan-Godfrey) F-statistic: 0.5328 with probability: 0.7787, large P-value results indicate that there is no heteroscedasticity problem (i.e. non-constant error variance). Jarque-Bera Test F-statistic: 7.83996 with probability: 0.0198, a small P-value result indicates a slight kurtosis or skewness in the residual distribution, but this is not a major problem in the context of this model. The value of the Ramsey RESET Test t-Statistic: 0.49276 with a probability: 0.6262, this result reflects a large P-value indicating that the model has no specification problems or that important variables are not missed in the model.

This ECM model shows that changes in inflation, GDP, exchange rates, industrial value-added, and investment have a significant influence on Indonesia's trade changes in the short term. In addition, significant Error Correction Term (ECT) shows that the model can correct long-term imbalances to a stable equilibrium in the short term. The model has also been shown to be free from issues of autocorrelation, heteroscedasticity, and improper model specifications.

To explain Indonesia's condition from 1989 to 2022 related to the influence of inflation, GDP, exchange rate, industrial value-added, and investment variables on trade, here is an analysis based on the results of the Error Correction Model (ECM) model and relevant research results from reputable international journals.

The Influence of Inflation on Trade Inflation is one of the important indicators that affects the economic stability of a country. High inflation can increase production costs and reduce the competitiveness of domestic goods in the international market, thus affecting trade volume. The results of the ECM analysis show that changes in inflation have a positive influence on Indonesia's trade in the short term. This could be due to changes in monetary policy taken to address inflationary pressures, such as interest rate adjustments that could affect exports and imports. Research by Okpe & Ikpesu (2021) shows that inflation in developing countries can affect the competitiveness of exports and imports, with

a positive relationship between inflation and trade volumes, particularly in the short term. These findings are consistent with research conducted by Ivrendi & Guloglu (2010) which revealed that Low inflation in developing countries tends to improve trade balances, but in some cases can increase exports in the short term due to the influence on the relative prices of goods. This contrasts with the research of Ivrendi & Guloglu (2010), which discusses more of the negative impact of inflation on trade in the long term. This study shows that inflation control policies in the short term can support Indonesia's export competitiveness.

The influence of GDP on Trade GDP or GDP is the main indicator to measure the economic performance of a country. In the long run, higher economic growth is usually followed by increased production capacity and demand for export goods. The ECM results show that changes in GDP have a negative influence on Indonesia's trade in the short term. This can happen if rapid economic growth leads to a higher increase in domestic demand, which in turn can reduce the need to import goods and lower the volume of international trade. Nguyen (2022) in their research on the relationship between economic growth and international trade found that GDP has a positive effect on trade volume in developing countries. However, their findings also indicate that in the short term, economic growth may lead to a decline in exports due to increased domestic demand and reduced dependence on international trade, which is in line with the negative findings on GDP variables in the ECM model in the study. This is different from the research conducted by Nguyen (2022), which found a positive relationship between economic growth and trade in the long term.

The Effect of Exchange Rates on Trade Fluctuating exchange rates affect the competitiveness of a country's exports. Favourable exchange rate changes (a decrease in the domestic currency exchange rate) usually increase the competitiveness of exports because export goods become cheaper for the destination country. Conversely, a strengthening exchange rate can increase the price of imported goods, reduce demand for imports, and reduce international trade volumes. Based on the ECM results, the fluctuating rupiah exchange rate has a positive effect on Indonesian trade, indicating that a decrease in the exchange rate can increase Indonesia's exports. Research by Tan, et al (2019) on the influence of exchange rates on ASEAN trade shows that the depreciation of the exchange rates of ASEAN countries tends to increase exports, especially in the short term. This is in line with the findings of this study, which shows that the exchange rate (especially against the US dollar) has a positive influence on Indonesian trade.

The Effect of Industrial Added Value on Trade Industrial value-added reflects the contribution of the industrial sector to the economy. A well-developed industrial sector has the potential to increase production capacity and the quality of exportable products, which in turn increases international trade volumes. The ECM results show that changes in industrial value added have a positive influence on Indonesia's trade, indicating that the development of the industrial sector can boost exports and improve the trade balance. Research by Đurić, et al (2016) highlights the importance of the industrial sector in strengthening the export competitiveness of developing countries. They found that higher industrial value-added drives exports of manufactured goods, which is associated with positive outcomes on the industry-added variable in the study. These results are in line with previous research that showed a strong link between industrialization and exports in developing countries. Although Indonesia's industrial sector has grown rapidly, several other studies, such as Sahoo and Sethi (2023), indicate that the added value of the industry can serve as a lever for long-term trade expansion.

The Influence of Investment on Trade Investment, both domestic and foreign, plays an important role in increasing the production capacity and competitiveness of traded goods. Higher investment in certain sectors, such as manufacturing and infrastructure, can accelerate export and import growth. The ECM results show that changes in investment have a positive influence on Indonesia's trade, meaning that increased investment can boost trade-related sectors, both exports and imports. Sahoo and Sethi (2023) in their research show that investment, both domestic and foreign, has a positive impact on exports and imports in developing countries. This research is in line with the findings of this ECM research which shows that investment has a significant influence on Indonesian trade. Instead, Akram, et al (2024) emphasize that certain sectors require investment to create a comparative advantage in international trade.

Overall, between 1989 and 2022, Indonesia experienced major dynamics in its economy that were influenced by external and internal factors. During this period, Indonesia underwent several important

phases, including the 1997-1998 monetary crisis, economic reforms, and transformation towards a more open economy and integrated with the global market. During this period, the variables tested in the ECM model, such as inflation, GDP, exchange rate, industrial value-added, and investment, played a significant role in influencing Indonesia's foreign trade performance.

Although Indonesia experienced relatively stable economic growth, major challenges such as exchange rate fluctuations and inflationary pressures also affected the stability of international trade. Industrial value added and investment are the main drivers to increase production capacity and competitiveness, while exchange rate fluctuations and inflation must be managed with appropriate macroeconomic policies to support exports.

CONCLUSION

Economic growth has a negative influence on the value of trade both in the short and long term. This suggests that while economic growth can increase domestic demand, in some cases, it can lead to a faster increase in imports than exports, thereby reducing Indonesia's trade surplus.

The rupiah exchange rate against the US dollar shows a positive influence on trade value in the short and long term. The depreciation of the rupiah can increase the competitiveness of Indonesian export products in the international market, because the price of Indonesian goods becomes more competitive for export destination countries.

The added value of the industry has a significant positive influence on the value of trade, both in the short and long term. This reflects the importance of the growing industrial sector with high added value to increase exports and improve Indonesia's trade position. The greater the contribution of the industrial sector to gross domestic product (GDP), the greater its contribution to exports.

Investment shows a positive influence on Indonesian trade, both in the short and long term. Strong investment in the industrial and infrastructure sectors supported the increase in domestic production capacity, leading to increased exports and a positive contribution to Indonesia's trade balance.

A negative and significant ECT coefficient (-0.9469) indicates that there is a strong long-term adjustment between the variables studied. This means that despite short-term fluctuations in Indonesia's trade value, there is an automatic correction mechanism to return to a long-term equilibrium position.

Given the importance of the high-value-added industrial sector, the government needs to encourage the development of the industrial sector through policies that support innovation and production efficiency, including in terms of technology, human resources, and infrastructure. Investment in research and development (R&D) and processing of raw goods into semi-finished goods or finished goods can help increase Indonesia's export competitiveness.

To harness the positive influence of the exchange rate, the government and Bank Indonesia need to maintain rupiah exchange rate stability through appropriate monetary policy. Controlled depreciation can increase Indonesia's export competitiveness. In addition, policies that can stabilize the foreign exchange market need to be strengthened, so that exchange rates do not experience large fluctuations that can be detrimental to international trade.

For Indonesia's economic growth not to lead to import dependence, it is important for the government to encourage the development of more export-oriented sectors, such as the manufacturing and agricultural industries which have great potential for international markets. The increase in domestic purchasing power can be balanced by the strengthening of the production sector that is able to compete in the global market.

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