






“Exchange rate volatility and its impact on foreign trade: Evidence from Peru in a period of global and domestic turbulence (2019-2023)”

AUTHORS	Aurora Caytairo-Valle  Cristhie Jazmine Vilchez-Julca  Franklin Cordova-Buiza  
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Aurora Cayturo-Valle, B.Sc., Business Faculty, Universidad Privada del Norte [Northern Private University], Peru.

Cristhie Jazmine Vilchez-Julca, B.Sc., Business Faculty, Universidad Privada del Norte [Northern Private University], Peru.

Franklin Cordova-Buiza, Ph.D., Department of Research Innovation and Sustainability, Universidad Privada del Norte [Northern Private University], Peru. (Corresponding author)



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Aurora Cayturo-Valle (Peru), Cristhie Jazmine Vilchez-Julca (Peru),
Franklin Cordova-Buiza (Peru)

EXCHANGE RATE VOLATILITY AND ITS IMPACT ON FOREIGN TRADE: EVIDENCE FROM PERU IN A PERIOD OF GLOBAL AND DOMESTIC TURBULENCE (2019-2023)

Abstract

Between 2019 and 2023, the Peruvian sol showed an accumulated nominal variation of approximately 12.9%, reflecting moderate depreciation influenced by both external and domestic factors, although in 2022 it appreciated by 4.6%, positioning itself as one of the most stable currencies in the region. The objective of this study was to estimate the impact of exchange rate volatility on Peru's foreign trade during this period of global and domestic turbulence, employing a quantitative correlational design with secondary data from the Central Reserve Bank of Peru (BCRP) and the National Superintendence of Customs and Tax Administration (SUNAT), analyzed through regression models and statistical tests in SPSS. The results indicate that exchange rate variability explains 61.1% of changes in export volume, 49.8% in import volume, and 45.9% in terms of trade (all $p < 0.01$), while inflation and GDP also show significant associations with exports and imports, with R^2 values ranging from 24.5% to 60.4% ($p < 0.01$). These findings confirm that macroeconomic volatility, particularly exchange rate dynamics, significantly shapes trade performance. From a theoretical perspective, this study provides evidence from a primary-exporting economy, enriching the literature on exchange rate fluctuations in emerging markets, while from a practical standpoint, it underscores the importance of adopting economic and trade policies that mitigate external vulnerability, stabilize exchange rate fluctuations, and strengthen competitiveness. In conclusion, exchange rate volatility exerts a decisive influence on Peru's foreign trade, reinforcing the need for integrated and sustainable policy measures to ensure stability and long-term growth.

Keywords

exports, imports, exchange rate fluctuations, trade dynamics, foreign trade, balance of trade

JEL Classification

F30, F31, F47

INTRODUCTION

Exchange rate volatility is one of the most critical macroeconomic problems for open economies, as fluctuations in currency value directly affect production costs, trade flows, and overall competitiveness (Chávez-Inga et al., 2025; Edwards & Cabezas, 2022; Cordova-Buiza et al., 2022). In Peru, the exchange rate has historically been a central determinant of economic stability, with periods of depreciation associated with inflationary pressures and external shocks. Between 2019 and 2021, the Peruvian sol depreciated annually by 6-7% against the US dollar, driven by the global COVID-19 crisis and by domestic political and economic uncertainty. Although relative stability was observed beginning in 2022, with the exchange rate averaging, concerns persist about the medium-term implications of volatility for the country's trade performance (Poulakis & Tsaliki, 2022; National Institute

of Informatics and Statistics (INEI), 2023); Huaman-Ñope et al., 2022; National Superintendency of Customs and Tax Administration (SUNAT), 2025a).

The central problem examined in this study is to understand how exchange rate dynamics interact with inflation and GDP to shape Peru's trade dynamics during a period of global and domestic turbulence (2019–2023). Persistent currency fluctuations not only affect macroeconomic aggregates but also create uncertainty for businesses, households, and policymakers. Understanding the relationship between volatility and foreign trade is essential for designing measures that protect competitiveness and ensure sustainable growth in an increasingly unstable international environment (Central Reserve Bank of Peru, 2021; National Superintendency of Customs and Tax Administration (SUNAT), 2025b; Yupanqui-Castillo et al., 2024; Lal et al., 2023).

1. LITERATURE REVIEW

The exchange rate is a fundamental economic variable that influences foreign trade and, therefore, the development of national economies. This concept reflects the amount of domestic goods needed to purchase a foreign good and, conversely, the amount of foreign goods needed to purchase a domestic good (De Gregorio, 2007; Alshubiri, 2022). The exchange rate also represents the value of the domestic currency in terms of foreign currency and can be classified into three main regimes: floating, banded, and fixed. In the floating regime, the value of the currency is determined by market supply and demand, with little central bank intervention. The banded regime, on the other hand, allows the market to operate within limits pre-set by the central bank. Finally, the fixed regime establishes an immutable value for the foreign currency, with the aim of stabilizing the trade balance and strengthening the economy (Vargas, 2010; Kumar et al., 2022; Boundi, 2019).

The determinants of the exchange rate can be analyzed from two main approaches. The nominal hypothesis relates exchange rate fluctuations to variables such as relative prices, interest rates, and the balance of payments. In contrast, the competitive approach emphasizes factors such as productivity, real wages, and technological advances (Landa, 2023; Edwards & Cabezas, 2022). The COVID-19 pandemic, policy reforms, and other recent events have accentuated the importance of these determinants, as exchange rate fluctuations directly affect the prices of goods and services, especially imports (Sharify, 2021; Seminario et al., 2022).

Exchange rate changes take the form of appreciations and depreciations. A depreciation occurs when more domestic currency is needed to purchase one unit of foreign currency, while an appreciation implies the opposite (Baldwin & Krugman, 1989; Castañeda & López, 2022). In contexts of high inflation, fixed exchange rate regimes have been adopted to control persistent inflation, although these measures can generate adverse effects, such as inflationary inertia and trade imbalances (Lahura & Vega, 2013; Lim & Mandrinos, 2023).

Foreign trade, defined as the exchange of goods and services between countries, includes imports and exports and plays a crucial role in international economic interaction. The trade balance, one of the key indicators of foreign trade, refers to the difference between the value of exports and imports. When exports exceed imports, the balance is in surplus; otherwise, it is in deficit (Díaz & Redondo, 2019; Covri & Enríquez, 2022).

Several studies have highlighted the negative effects of exchange rate volatility on international trade. Pozo et al. (2020) point out that exchange rate uncertainty affects the decisions of economic agents, making it difficult to plan activities in foreign currency. This volatility has significant implications for the balance of trade and payments (Miranda & Muínelo, 2021; Durán & Alvarez, 2008). In this context, Marrero (2019) emphasizes the role of the dollar as a global currency, highlighting how exchange rate fluctuations can impact companies engaged in foreign trade, particularly in situations of political and social instability.

The real exchange rate is a key variable in macroeconomic analysis. Although not directly observ-

able, its behavior is driven by factors such as the terms of trade, productivity, government consumption, and the external asset position (Tashu, 2018). The terms of trade, which express the relationship between export and import prices, are an important indicator of economic welfare (Tovar & Chuy, 2000).

The literature has also explored how exchange rate fluctuations influence economic growth. Mamani et al. (2023) and Loayza (2016) highlight that a nation's growth depends on productivity, innovation, and infrastructure, all of which are affected by exchange rate variability. This impact is particularly noticeable in economies that rely on imported goods as inputs for production.

Against different backgrounds, recent studies have examined the relationship between the exchange rate and foreign trade in various international contexts. Thorbecke and Sengonul (2023) investigated how the depreciation of the Turkish lira affected both imports and exports, pointing to the importance of policies that reduce dependence on imported inputs. Jiang et al. (2022) analyzed the impact of renminbi (RMB) appreciations on industrial productivity, finding positive effects on average, but negative effects in industries dependent on imported goods. Li et al. (2022) identified how exchange rate volatility in China increases production costs by making it more difficult to import intermediate goods, claiming that a more stable exchange rate or optimal financial development would reduce such uncertainties.

Zhang et al. (2023) studied the impact of exchange rate volatility on Atlantic salmon imports to the US market. Using a Rotterdam demand model, they showed that exchange rate uncertainty affects demand due to price changes, and recommended strategies to mitigate these risks. Iqbal et al. (2023) investigated the effects of exchange rate volatility between the rupee, yen, and dollar on India-US trade flows, concluding that exchange rate uncertainty generates significant impacts, both positive and negative, depending on the nature of trade flows.

Díaz and Redondo (2019) note that firms operating in US dollars face elevated exchange rate risk (p. 60). Landa (2023) analyzes exchange rate de-

terminants using a portfolio-balance framework with an autoregressive specification, emphasizing the roles of relative prices, interest rates, and the balance of payments (Landa, 2023). Sharify (2021) analyzed how exchange rate changes affect price indices and the balance of payments, highlighting the importance of effective monetary policies to counteract these effects.

Other studies have explored exchange rate dynamics in crisis contexts. Muinelo et al. (2020) used vector autoregressive models to analyze how exchange rate inaccuracies impact export flows, finding that they affect manufacturing economies more than commodity exporters. Landa and Cerezo (2021) investigated the expansionary policies implemented during the COVID-19 pandemic, highlighting how these influenced exchange rate dynamics.

The impact of the exchange rate on the trade balance has also been analyzed. Arize et al. (2017) noted that currency devaluations make imports more expensive and exports cheaper, generating direct effects on the trade balance. Covri and Enriquez (2022) studied the trade balance of Ecuador and the United States, while Baena (2019) analyzed Colombia's main export products, highlighting the importance of well-designed foreign trade policies.

Exchange rate volatility has different effects depending on the strength of each country's economic and trade policies. The COVID-19 pandemic had significant impacts on global economies, affecting businesses, governments, and households. Many companies experienced a drop in production, while others closed down completely. These dynamics highlight the importance of preventive measures to mitigate the adverse effects of exchange rate volatility, especially in economies such as Peru, which faces constant political challenges.

In summary, the literature shows that exchange rate volatility exerts significant effects on trade performance, although its magnitude and direction vary across contexts depending on structural and macroeconomic conditions. For primary-exporting economies such as Peru, the evidence is still inconclusive, highlighting the need for further empirical testing.

Therefore, the general objective of this study is to estimate the association between exchange rate volatility and Peru's foreign trade during the period 2019–2023. Based on this objective and the reviewed literature, the following hypotheses are proposed:

- H1: Exchange rate volatility significantly impacts Peru's foreign trade between 2019 and 2023.*
- H2: Inflation volatility is significantly associated with Peru's exports, imports, and terms of trade.*
- H3: Gross domestic product variation is significantly associated with Peru's exports, imports, and terms of trade.*

2. METHODS

The present research is of a correlational type and is based on a quantitative approach that allows us to analyze the theoretical relationship between the study variables described in the literature review. A non-experimental design was applied, as the information used comes from data collected from governmental and private institutions that generate official statistical reports. In addition, the design is longitudinal, given that the variables were studied between 2019 and 2023.

The population considered is made up of all reports and statistical data generated by the Central Reserve Bank of Peru (BCRP) on the exchange rate, inflation, gross domestic product (GDP), and terms of trade, as well as export and import data provided by the National Superintendence of Customs and Tax Administration (SUNAT). The sample comprises 55 monthly observations for each indicator (exchange rate, inflation, GDP, terms of trade, export volume, and import volume) from January 2019 through July 2023, obtained from BCRP and SUNAT sources (Central Reserve Bank of Peru, 2021).

The methodology employed included a documentary review as the main technique, using a documentary review form as an instrument to collect data from the BCRP and SUNAT annual reports.

This instrument was designed taking as a reference the article by Covri and Enriquez (2022), which employs regression analysis techniques, Johansen cointegration, and secondary data collection. The validation of the instrument was carried out through expert judgement, with the participation of four specialists who evaluated the definition of the variables, their dimensions and indicators, ensuring their coherence with the objectives of the study and the structure necessary to collect the required information.

The data collected were initially processed in Microsoft Excel for organization and then analyzed using SPSS statistical software. The variables studied included exchange rate, inflation, GDP, terms of trade, exports, and imports. Various statistical tests were conducted in line with the objectives and hypotheses set out in the study. Correlational analysis, using Pearson's coefficient, allowed for the assessment of the relationship between the variables under study. In addition, normality tests were applied to assess distributional assumptions and to verify the assumptions of the regression models in order to ensure that explanatory variables were appropriately related to the dependent variables (exports, imports, and terms of trade). Finally, linear regressions were performed to examine the relationships between the independent and dependent variables.

The development of this research complies with the principles of originality, truthfulness, and ethics. Copyright was respected, and citations and references were applied in accordance with the APA, 7th edition. Likewise, a rigorous and transparent treatment of the data and information collected was guaranteed, respecting the established academic standards.

3. RESULTS

The results indicate statistically significant associations between exchange rate volatility and Peru's trade variables. The exchange rate explains 61.1% of the variability in exports, 49.8% of the variability in imports, and 45.9% of the variability in terms of trade (all $p < 0.01$). Inflation explains 24.5% of the variability in exports and 31.9% of the variability in imports ($p < 0.01$), while its relationship with terms of trade is weaker ($R^2 = 0.056$, p

= 0.082). GDP explains 60.4% of export variability and 48.4% of import variability ($p < 0.01$), with a limited effect on terms of trade ($R^2 = 0.057$, $p = 0.080$). These findings confirm the hypotheses regarding the role of exchange rate volatility, inflation, and GDP in shaping Peru's foreign trade dynamics.

Table 1. Descriptive results for the exchange rate, inflation, and GDP

Statistics		Exchange rate	Inflation	GDP
N	Valid	55	55	55
	Lost	1	1	1
Media		3.6498	.3842	168.6573
Median		3.6500	.3100	171.9400
Standard deviation		.24194	.39021	16.09880

To validate the normality of the data and justify the use of parametric tests, the Kolmogorov-Smirnov statistic was used.

Table 2. Normality of data

Data	Kolmogorov-Smirnova	
	Statistician	Sig.
Exchange rate	.122	.041
Inflation	.109	.156
GDP	.156	.002
Volume of exports	.069	.200*
Volume of imports	.060	.200*
Terms of exchange	.143	.007

Note: * $p > 0.05$ indicates that the variable follows a normal distribution (Kolmogorov–Smirnov test).

Table 3. Pearson's correlation

Correlation		Volume of exports	Volume of imports	Terms of exchange
Exchange Rate	Pearson correlation	.782**	.705**	.677**
	Sig. (bilateral)	.000	.000	.000
	N	55	55	55
Inflation	Pearson correlation	.495**	.565**	.236
	Sig. (bilateral)	.000	.000	.082
	N	55	55	55
GDP	Pearson correlation	.777**	.696**	.238
	Sig. (bilateral)	.000	.000	.080
	N	55	55	55

Note: ** $p < 0.01$ (two-tailed) indicates a statistically significant correlation at the 1% level.

Table 4. Linear regression between the exchange rate and export volume

Model	R	R square	Adjusted R-square	Standard error of the estimate	Statistics of change				
					Change in R-squared	Change in F	gl1	gl2	Sig. change in F
1	.782a	.611	.603	590834888.5	.611	83.187	1	53	.000

Note: a. Predictors: (Constant), Exchange rate. b. Dependent variable: Volume of exports.

The results in Table 2 show that the variables inflation, volume of exports, and imports have significance values greater than 0.05, indicating that they are normal; therefore, Pearson's coefficient was used to assess the correlations.

The correlation analysis presented in Table 3 shows significant positive correlations between the exchange rate and the volume of exports ($r = 0.782$, $p < 0.01$), volume of imports ($r = 0.705$, $p < 0.01$), and terms of trade ($r = 0.677$, $p < 0.01$). Inflation shows moderate positive correlations with the volume of exports ($r = 0.495$, $p < 0.01$) and imports ($r = 0.565$, $p < 0.01$), while the correlation with the terms of trade is low ($r = 0.236$, $p = 0.082$). GDP shows high positive correlations with the volume of exports ($r = 0.777$, $p < 0.01$) and imports ($r = 0.696$, $p < 0.01$), and a low correlation with the terms of trade ($r = 0.238$, $p = 0.080$). These correlations confirm significant relationships between the variables and provide a solid basis for regression analysis.

General Hypothesis (GH): Exchange rate volatility significantly impacts Peru's foreign trade between 2019 and 2023.

The linear regression between the exchange rate and the volume of exports, shown in Table 4 and graphically represented in Figure 1, indicates that the exchange rate explains 61.1% of the variability in the volume of exports ($R^2 = 0.611$, $p < 0.01$), with

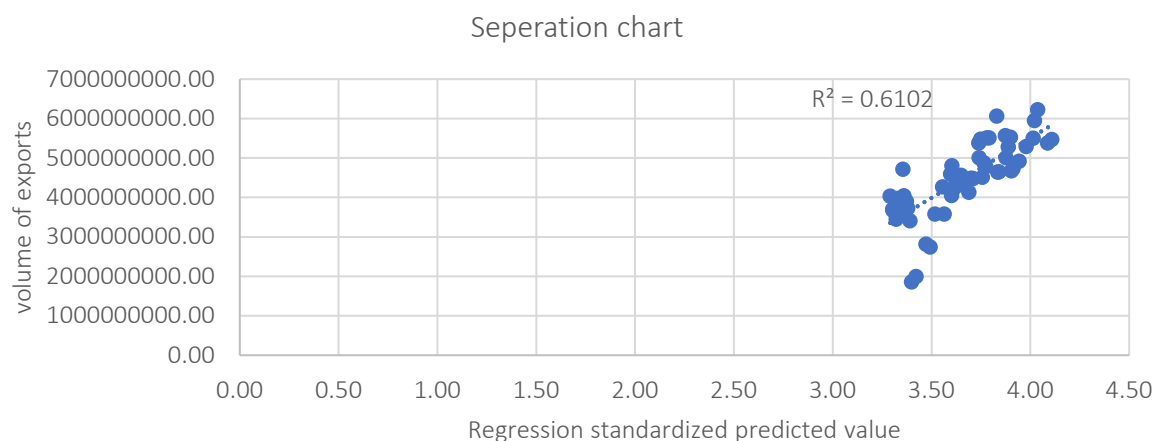


Figure 1. Exchange rate and export volume scatter plot

a standard error of ±590 million soles. This shows that exchange rate fluctuations have a considerable impact on the country’s exports.

Similarly, the regression between the exchange rate and the volume of imports (Table 5, Figure 2) shows that the exchange rate explains 49.8% of the variability in imports ($R^2 = 0.498$, $p < 0.01$), with a standard error of ±572 million soles. This suggests that exchange rate volatility increases import costs.

In the case of the terms of trade, the linear regression (Table 6, Figure 3) reveals that the exchange rate explains 45.9% of the variability ($R^2 = 0.459$, $p < 0.01$), with a standard error of ±6.23. These results confirm that exchange rate volatility affects the terms of trade.

H1: Inflation volatility significantly impacts Peru’s foreign trade between 2019 and 2023.

Table 5. Linear regression between the exchange rate and the import volume

Model	R	R square	Adjusted R-square	Standard error of the estimate	Statistics of change				
					Change in R-squared	Cambio en F	gl1	gl2	Sig. Cambio en F
1	,705 ^a	,498	,488	572287302,7	,498	52,491	1	53	,000

Note: a. Predictors: (Constant), Exchange rate. b. Dependent variable: Volume of imports.

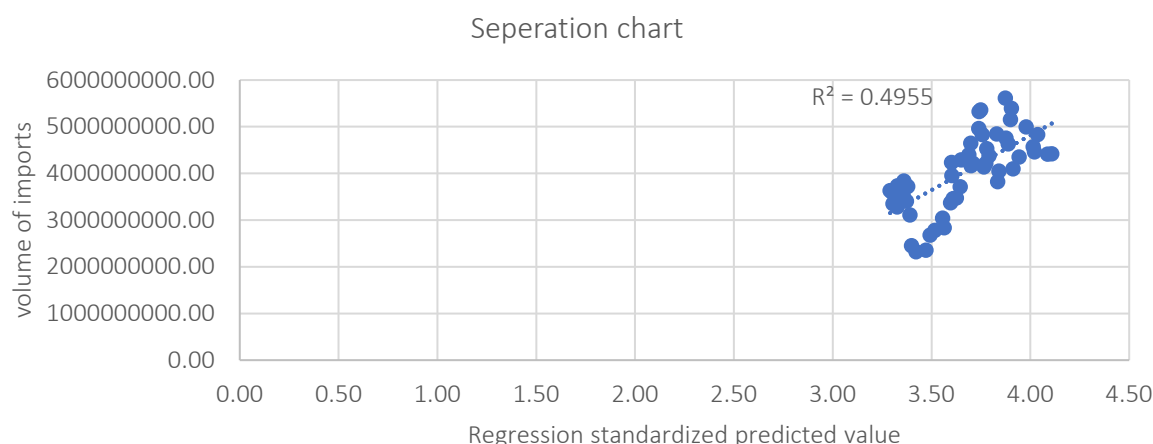


Figure 2. Scatter plot between the exchange rate and import volume

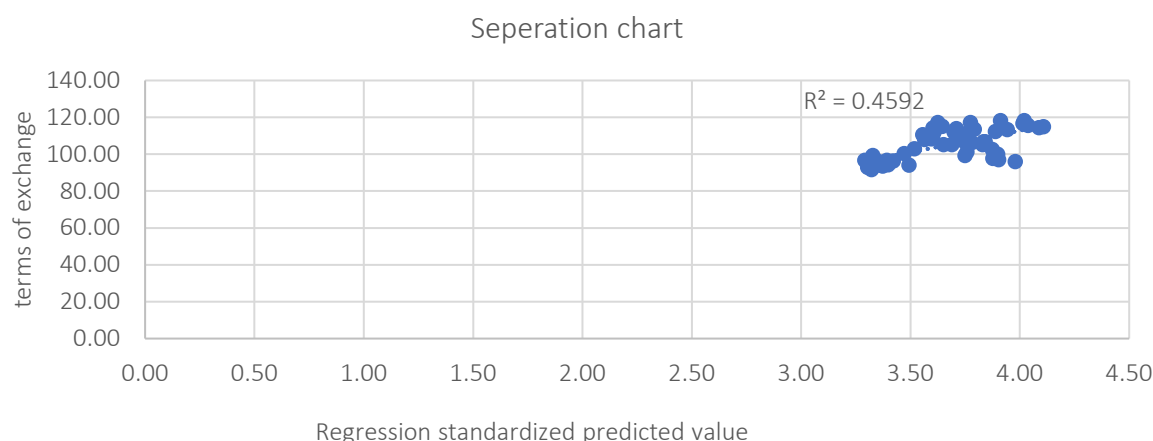


Figure 3. Exchange rate and terms-of-trade scatterplot

Table 6. Linear regression between the exchange rate and terms of trade

Model	R	R square	Adjusted R-square	Standard error of the estimate	Statistics of change				
					Change in R-squared	Cambio en F	gl1	gl2	Sig. Cambio en F
1	.677a	.459	.449	6.23108	.459	44.967	1	53	.000

Note: a. Predictors: (Constant), Exchange rate. b. Dependent variable: Terms of trade.

Table 7. Linear regression between inflation and export volume

Model	R	R square	Adjusted R-square	Standard error of the estimate	Statistics of change				
					Change in R-squared	Cambio en F	gl1	gl2	Sig. Cambio en F
1	.495a	.245	.231	822746562.2	.245	17.232	1	53	.000

Note: a. Predictors: (Constant), Inflation. b. Dependent variable: Volume of exports.

Table 8. Linear regression between inflation and import volume

Model	R	R square	Adjusted R-square	Standard error of the estimate	Statistics of change				
					Change in R-squared	Cambio en F	gl1	gl2	Sig. Cambio en F
1	.565a	.319	.306	666232439,3	.319	24,838	1	53	.000

Note: Inflation and import data for Peru, January 2019- July 2023. a. Predictors: (Constant), Inflation. b. Dependent variable: Volume of imports.

Table 9. Linear regression between inflation and terms of trade

Model	R	R square	Adjusted R-square	Standard error of the estimate	Statistics of change				
					Change in R-squared	Cambio en F	gl1	gl2	Sig. Cambio en F
1	.236a	.056	.038	8.23174	.056	3.133	1	53	.082

Note: Inflation and terms of trade data for Peru, January 2019- July 2023. a. Predictors: (Constant), inflation. b. Dependent variable: Terms of trade.

According to Table 7, inflation explains 24.5% of the variability in export volume ($R^2 = 0.245$, $p < 0.01$), with a standard error of ± 822 million soles. This indicates that inflation negatively affects exports.

Regarding the volume of imports, the regression (Table 8) shows that inflation explains 31.9% of the variability ($R^2 = 0.319$, $p < 0.01$), with a standard error of ± 666 million soles, evidencing its negative impact on imports. However, the relationship be-

tween inflation and the terms of trade (Table 9) is weaker, explaining only 5.6% of the variability ($R^2 = 0.056$, $p = 0.082$), with a standard error of ± 8.23 .

H2: Gross domestic product variation is significantly associated with Peru's exports, imports, and terms of trade.

The second hypothesis (H2) posits that GDP volatility impacts Peru's foreign trade. According to Table 10, GDP explains 60.4% of the variability in export volume ($R^2 = 0.604$, $p < 0.01$), with a standard error of ± 595 million soles, confirming its relevance.

In the case of import volume (Table 11), GDP explains 48.4% of the variability ($R^2 = 0.484$, $p < 0.01$), with a standard error of ± 579 million soles. Finally, the relationship between GDP and terms of trade (Table 12) is limited, explaining only 5.7% of the variability ($R^2 = 0.057$, $p = 0.080$), with a standard error of ± 8.22 .

These results confirm that exchange rate, inflation, and GDP fluctuations have significant, albeit differentiated, impacts on Peru's key foreign trade variables during the period studied. Exchange rate volatility and related macroeconomic variables

largely explain the observed changes in the volume of exports, imports, and terms of trade, providing valuable information for economic policy formulation.

4. DISCUSSION

The results of the study show that, between January 2019 and July 2023, the exchange rate, inflation, and GDP registered mean values of 3.65, 0.38%, and 168.66, respectively, with standard deviations of 0.24, 0.39%, and 16.1. These variables present significant correlations with foreign trade indicators. The exchange rate has a high positive correlation with the volume of exports ($r = 0.782$), imports ($r = 0.705$), and terms of trade ($r = 0.677$). Inflation shows a moderate positive correlation with the volume of exports ($r = 0.495$) and imports ($r = 0.565$), while its relationship with the terms of trade is low ($r = 0.236$). GDP, on the other hand, has a high positive correlation with the volume of exports ($r = 0.777$) and imports ($r = 0.696$), and a low correlation with the terms of trade ($r = 0.238$).

This evidence reinforces previous findings that highlight the decisive role of exchange rate fluctuations in shaping trade performance in emerging

Table 10. Linear regression between GDP and export volume

Model	R	R square	Adjusted R-square	Standard error of the estimate	Statistics of change				
					Change in R-squared	Cambio en F	gl1	gl2	Sig. Cambio en F
1	.777a	.604	.597	595650081.7	.604	80.994	1	53	.000

Note: a. Predictors: (Constant), GDP. b. Dependent variable: Volume of exports.

Table 11. Linear regression between GDP and import volume

Model	R	R square	Adjusted R-square	Standard error of the estimate	Statistics of change				
					Change in R-squared	Cambio en F	gl1	gl2	Sig. Cambio en F
1	.696a	.484	.474	579994258.2	.484	49.706	1	53	.000

Note: a. Predictors: (Constant), GDP. b. Dependent variable: Volume of imports.

Table 12. Linear regression between GDP and terms of trade

Model	R	R square	Adjusted R-square	Standard error of the estimate	Statistics of change				
					Change in R-squared	Cambio en F	gl1	gl2	Sig. Cambio en F
1	.238 ^a	.057	.039	8.22767	.057	3.189	1	53	.080

Note: Predictors: (Constant), GDP. b. Dependent variable: Terms of trade.

economies. Similarly, Jiang et al. (2022) identified how exchange rate variation affects productivity, findings that align with the impact observed on Peruvian exports. However, the weaker association between terms of trade and macroeconomic variables highlights the dominance of international price shocks, as emphasized by Tashu (2018). This contrast underscores the specificity of Peru's trade structure, which depends heavily on primary commodities.

These findings are consistent with previous research. For example, Thorbecke and Sengonul (2023) found that a strong exchange rate can reduce import costs and, in turn, boost exports. However, this study does not address the impact of credit constraints associated with exchange rate fluctuations, which presents an opportunity for future research. Similarly, Jiang et al. (2022) analyzed how exchange rate variation affects productivity in China. While both studies report positive correlations between the exchange rate and international trade, the differences in economic contexts and the lack of analysis on industrial allocation in the Peruvian case represent an area of divergence and future exploration.

The analysis is also aligned with the study by Li et al. (2022), which highlights the benefits of a stable exchange rate to reduce uncertainties and import costs. Complementarily, Zhang et al. (2023) emphasize that exchange rate volatility can influence demand and adjusted prices, affecting international trade. These points reinforce the idea that proper exchange rate management is key to mitigating the risks associated with global trade.

Iqbal et al. (2023) evaluated how exchange rate volatility affects trade flows in contexts such as India and the United States, finding negative effects similar to those observed in this study.

Although the research by Diaz and Redondo (2019) focuses on the efficiency of forward contracts, both papers agree on the relevance of managing foreign exchange risks in foreign trade. On the other hand, Landa (2023) focuses on the determinants of the exchange rate and uses an autoregressive model. Both studies share the idea that the ER is influenced by economic and financial factors. Sharify (2021) examines the effects of changes in the exchange rate on the price indexes of imported products, which is related to my study in suggesting that changes in the exchange rate can affect the prices of imported goods, and Sharify (2021) highlights the determinants of the exchange rate and its effects on price indexes, findings that complement the results of this analysis.

Exchange rate uncertainty has also been addressed by Muinelo et al. (2020) and Arize et al. (2017), who identify its negative impact on export flows and trade balance in developing countries. Similarly, this study supports the idea that exchange rate fluctuations can significantly affect trade dynamics in Peru. In addition, studies such as Covri and Enriquez (2022) examined Ecuador's trade balance with the United States using import and export demand elasticity cointegration models. Both studies highlight the importance of understanding trade interactions in the international context. Baena (2019) analyzes the products exported in Colombia and how exports impact a country's economy. This suggests that exports are a key component of international trade and the economy in general.

In summary, the results of this study highlight the relevance of the exchange rate as a key factor in Peru's foreign trade, underscoring the importance of sound economic and trade policies to manage its volatility and promote a more stable environment for economic development.

CONCLUSION

The objective of this study was to estimate the impact of exchange rate volatility on Peru's foreign trade during the period 2019–2023. The results confirm that movements in the exchange rate, inflation, and GDP are significantly associated with trade performance, with stronger effects on exports and imports and weaker effects on terms of trade. These findings demonstrate that exchange rate dynamics are a central determinant of trade outcomes in the Peruvian context.

From a theoretical perspective, the study contributes to the literature on exchange rate volatility by providing empirical evidence from a primary-exporting economy, where sensitivity to currency fluctuations is high and the influence of external shocks is particularly relevant. It also supports existing research showing that the impact of macroeconomic volatility on trade varies across economic structures, thereby expanding the scope of comparative studies in emerging economies.

From a practical standpoint, the evidence underscores the importance of strengthening macroeconomic policies that stabilize exchange rate dynamics and contain inflation, while also promoting competitiveness in international markets. It highlights the relevance of adopting financial risk management instruments, such as hedging mechanisms, and of designing trade facilitation measures that allow exporters and importers to adapt to changing conditions. These implications are vital for policymakers and business leaders seeking to mitigate vulnerabilities and ensure sustainable growth in the context of global and domestic turbulence.

Although the findings of this research provide valuable insights into the relationship between exchange rate volatility and foreign trade in Peru, certain limitations must be acknowledged. The exclusive use of secondary data from BCRP and SUNAT confines the analysis to macroeconomic aggregates, excluding firm-level or qualitative perspectives that could enrich the interpretation. Furthermore, the linear regression approach may not fully capture potential non-linear or dynamic relationships among the variables, suggesting the need for future studies employing cointegration or vector autoregression models. The temporal scope (2019–2023), characterized by economic and political turbulence, also limits generalization to more stable periods. Finally, as the analysis focuses solely on Peru, comparative insights with other Andean or emerging economies remain unexplored. Future research should therefore deepen causal analysis using advanced econometric methods, include additional explanatory factors such as political shifts, and compare regional contexts, particularly with countries like Colombia, Ecuador, and Bolivia, to provide a broader understanding of exchange rate impacts and trade dynamics.

AUTHOR CONTRIBUTIONS

Conceptualization: Aurora Cayturo-Valle, Cristhie Jazmine Vilchez-Julca.

Data curation: Aurora Cayturo-Valle.

Formal analysis: Aurora Cayturo-Valle.

Funding acquisition: Cristhie Jazmine Vilchez-Julca.

Investigation: Cristhie Jazmine Vilchez-Julca, Franklin Cordova-Buiza.

Methodology: Franklin Cordova-Buiza.

Project administration: Aurora Cayturo-Valle.

Resources: Franklin Cordova-Buiza.

Software: Cristhie Jazmine Vilchez-Julca.

Supervision: Franklin Cordova-Buiza.

Validation: Cristhie Jazmine Vilchez-Julca.

Visualization: Aurora Cayturo-Valle.

Writing – original draft: Cristhie Jazmine Vilchez-Julca.

Writing – review & editing: Aurora Cayturo-Valle, Franklin Cordova-Buiza.

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