

AN INVESTIGATION OF THE RELATIONSHIP BETWEEN EXCHANGE RATE VOLATILITY AND VOLUME OF TEA EXPORT IN SRI LANKA

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Abstract

Tea is an important agricultural commodity grown in Sri Lanka. It generates a significant amount of foreign exchange. This study was conducted to investigate the relationship between exchange rate volatility and the volume of tea exports in Sri Lanka during 2011-2021. Secondary data related to the volume of tea export, exchange rate, tea prices, inflation rate, and volume of tea production in Sri Lanka from 2011 to 2021 on a monthly basis were used. Regression analysis was used for data analyses. According to the result, there was a negative relationship between exchange rate volatility and the volume of tea export. The inflation rate was a significant factor that affected tea export volume. According to the findings, updating relevant monetary and tea production-related policies by the government are important to increase tea exports from Sri Lanka in the future.

Keywords: *Tea production, Tea export, Exchange rate volatility, Tea prices, Sri Lanka.*

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Introduction

Tea is an important cash crop in Sri Lanka. It can generate a significant amount of foreign exchange. Sri Lanka's total agricultural exports merchandise earnings were 1986.7 US \$ mn and tea exports merchandise earnings were 986.6 US \$ mn from January to September 2021 (Central Bank of Sri Lanka, 2021). According to this information, tea export contributes a high percentage of export earnings in the country. Ceylon tea contribution percentage to total merchandise has been very low in the last few decades (Export Development Board, 2021).

The exchange rate was the value of one currency in terms of the currency of another nation. Exchange rate volatility means risk associated with unexpected movement in the country's exchange rate (Schmitz, 2012). Therefore, exchange rate prediction is very difficult from time to time for the country and it makes difficulties for the country, businesses, and foreign investors in their decision process. (Schmitz, 2012).

However, unfortunately now tea export volume of Sri Lanka does not show a constant pattern from the last few decades while the exchange rate is volatilizing rapidly in the country. (Sri Lanka Export Development Board, 2021). If there is better knowledge about the relationship between exchange rate volatility and the volume of tea export, it will help to boost the tea export volume in Sri Lanka.

Materials and Methods

In this research, 11 years of secondary data about exchange rates as well as the volume of tea export, tea prices, inflation rate, and volume of tea production from Sri Lanka during 2011-2021 (on monthly basis) were used. Data were collected from Export Development Board, Forbes & Walker Tea Brokers (Pvt) Ltd, and Central Bank rates and indicators. Data analysis methods were descriptive statistics and regression analysis. All variables were converted to log values for analysis purposes.

Dependent variable : Volume of tea export

Independent variable : Exchange rate volatility volume

Control variable : Tea prices, Inflation rate & Volume of tea production

Results and Discussion

The main findings are presented in this section.

Table 01:

Correlation Analysis

	Tea Export Volume	Exchange Rate Volatility	Tea Auction Price	Inflation Rate	Tea Production Volume
Tea Export Volume	1.000				
Exchange Rate Volatility	-.024	1.000			
Tea Auction Price	.130	-.161	1.000		
Inflation Rate	-.274	-.014	-.017	1.000	
Tea P. Volume	.032	.015	-.248	-.082	1.000

Note. Correlations between variables shown in this table

There was a negative correlation between exchange rate volatility and tea export volume. It describes that there was a negative relationship between exchange rate volatility and the volume of tea export in Sri Lanka from 2011 to 2021. According to Wanjothi, (2016) there was a positive correlation between exchange rate volatility and tea export volume in Kenya as well.

Table 2:

Coefficient correlation of multiple determinations (R^2)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.305	.093	.064	1.013546

Note. This table shows R and R^2 values.

There was a medium level of relationship between the exchange rate volatility and the volume of tea exports during 2011-2021. (Coefficient of correlation was 30.5 %.) Similarly, according to Omondi, (2017) there was a medium relationship between exchange rate volatility and the volume of tea exports in Kenya because the study coefficient of correlation was 38.6%.

Table 3:*Coefficients*

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B	
	B	Std. Error				Beta	Lower Bound
1 (Constant)	7.711	11.468		-.672	.503	-30.40	14.982
Exchange Rate Volatility	-.023	.309	-.007	-.076	.940	-.634	.587
Tea Auction Price	1.607	1.049	.135	1.531	.128	-.469	3.683
Inflation Rate	-.947	.299	-.269	-3.16	.002	-1.540	-.355
Tea Production Volume	.673	1.352	.044	.497	.620	-2.004	3.349

Note. This table shows coefficients and B values for variables.

The equation model for this relationship is as below.

$$Y=7.711- 0.023 X1+1.607 X2 - 0.947 ** X3+0.673 X4+e$$

According to the coefficient significance value inflation rate *p*-value was less than 0.05. Therefore, the inflation rate was statistically significant to predict the volume of tea exported monthly in Sri Lanka.

P values of exchange rate volatility, monthly tea auction price, and monthly tea production were greater than 0.05. Therefore, exchange rate volatility, monthly tea auction price, and monthly tea production are statistically insignificant for predicting the volume of tea exported monthly in Sri Lanka during 2011-2021.

Because Sri Lanka's export volumes contain both re-export and produced export volumes, tea prices contain only tea auction prices; other private sales prices were not contained. Tea companies mainly produce black tea and weekly sales in the auction and export black tea in bulk quantities without considering the exchange rate. Similarly, according to Omondi, (2017)

exchange rate volatility and tea prices were insignificant factors for predicting Kenya's volume of tea export.

Conclusion and Recommendations

According to the findings, there was a negative relationship between exchange rate volatility and the volume of tea export in Sri Lanka during the year 2011-2021 periods. The inflation rate was a significant factor affecting the tea export volume. Tea prices, the volume of tea production, and exchange rate volatility factors were not significantly affected by the tea export volume in Sri Lanka from 2011 to 2021.

Update the monetary, export, and tea related policies by the government, according to the country's current economic condition.

Export base tea producers should expand the tea production lines focusing on the export market.

Tea exports should update their marketing plans to organize the campaigns in the current market and foreign new market segments.

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