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RESEARCH ARTICLE

THE EFFECT OF EXCHANGE RATE FLUCTUATIONS ON INTERNATIONAL TRADE OF INDIA

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ABSTRACT

The current study has emphasized on finding out the impact of exchange rate on international trade of the country. A higher-valued currency makes imports of a nation less costly, and its international exports more costly. A lower-valued currency makes imports more costly for a nation and international markets less costly for its exports. A higher exchange rate can be expected to worsen a country's trade balance whereas it can be expected to be boosted by a lower exchange rate. The current study has been conducted on the annual values of foreign exchange rate of India (Indian rupees and USD \$) and international trade of India covering the data from 1991 to 2019. The ordinary Least Square regression model has been used to establish the relationship between exchange rate and international trade of the country. The findings of the study suggest the relationship between taken variables.

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INTRODUCTION

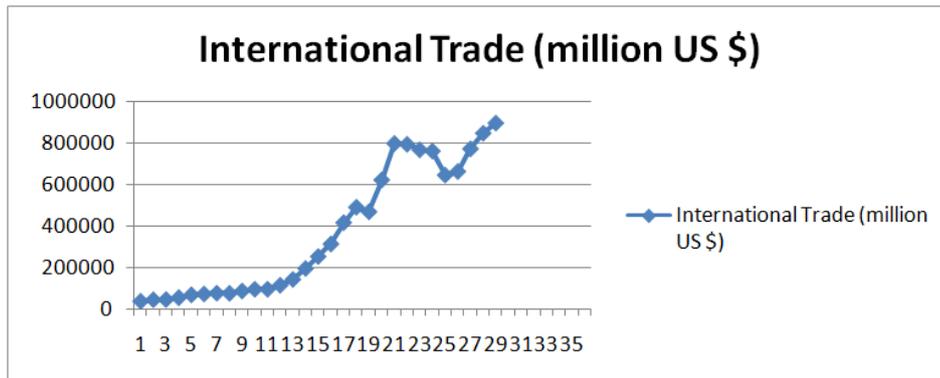
The exchange rate plays an important part in the success of a country's trade. Whether dictated by exogenous shocks or policies, currency relative valuations and volatility can have major impacts on foreign trade, balance of payments, and overall economic growth. This paper explores the value of exchange rates for international business. As per the literature available the volatility of the foreign exchange rate has a negative effect on trade flows. Trade balance affects currency exchange rates through its impact on the foreign exchange supply and demand. There is comparatively more supply or demand for a country's currency, which affects the price of that currency on the world market, when a country's trade account does not net to zero — that is, when exports are not equal to imports. The relative values are influenced by currency demand which, in turn, is influenced by trade. If a country exports more than it imports, its products, and therefore its currency, are in high demand. The supply and demand economies dictate that when demand is strong, prices increase and the value of the currency appreciates. Current Account deficit is also responsible for impacting international trade of a country, Sharma, P. (2020). The exchange rate is defined as "the rate at which one country's currency can be converted into another. Usually, these rates fluctuate daily in response to the supply and demand forces for the currencies of different countries.

Chile, for example, is the world's leading exporter of copper. If global copper demand rises, demand for the country's currency, the Chilean peso, will also rise since that time. The important factors that affect exchange rates are inflation rates, interest rates, current account, government debt, political and economic stability and speculation in the country. I have divided the study into six sections. First section deals with theoretical framework and supportive backing for current study. The second section discusses the review of related literature and potential scope for study on topic taken into consideration. The third portion is related to the data and research tools used to make analysis and interpretation. The fourth portion presents the results and discuss thereof. The fifth section shows the validity (limitation) of current study. The final segment presents the conclusion, suggestion and future direction of research on current study.

Review of literature: Auboin, M., & Ruta, M. (2013) presented a comprehensive literature review on the relationship between exchange rates and international trade. Chaudhary, G. M. et al. (2016) analyze the exchange-rate relationship of major South Asian and Southeast Asian economies to exports and imports using the Autoregressive Distributed Lag (ARDL) approach to integration and the correction of errors. The model is used to analyze the long-term and short-term relationship between sample economies variables. Sharma, P (2017) examined the effectiveness of trade between India and ASEAN country taking exchange

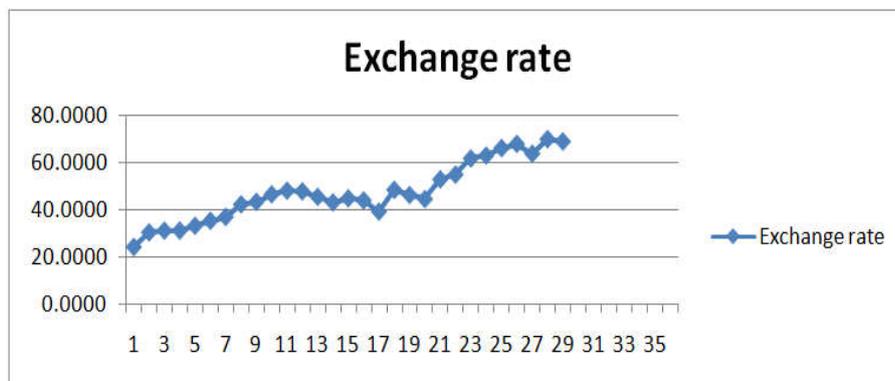
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Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
International trade	29	37409.0000	892896.5600	368199.333966	312749.2150307
Exchange rate	29	24.4737	69.9700	47.576934	12.6408944



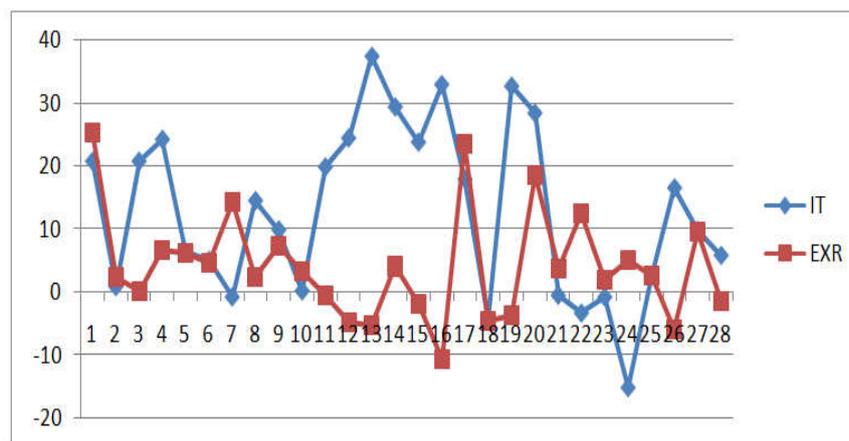
Source: SPSS output

Figure 1. Trends of International Trade



Source: Author's work

Figure 2: Trends of Exchange Rate



Source: Author's work

Figure 3: Percentage change in international trade and exchange rate

Table 2: Correlations

		IT	EXR
IT	Pearson Correlation	1	.850**
	Sig. (2-tailed)		.000
	N	29	29
EXR	Pearson Correlation	.850**	1
	Sig. (2-tailed)	.000	
	N	29	29

** . Correlation is significant at the 0.01 level (2-tailed).

Table 4: Model Summary^b

Variable	Augmented Dickey fuller test		Phillips Perron Test	
	t-statistic	p-value	z-alpha	p-value
International Trade	-2.0226	0.5639	-16.237	0.08852
Exchange Rate	-1.7618	0.6637	-32.568	0.08852

a. Predictors: (Constant), EXR

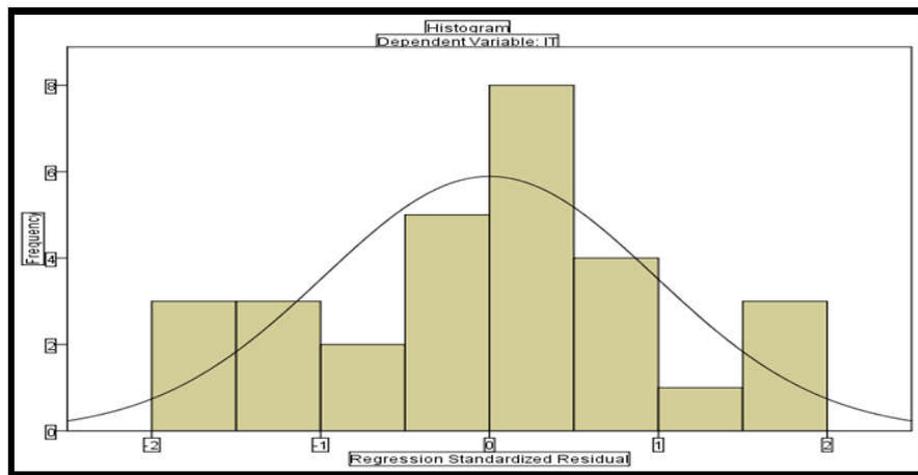
b. Dependent Variable: IT

Source: SPSS Output

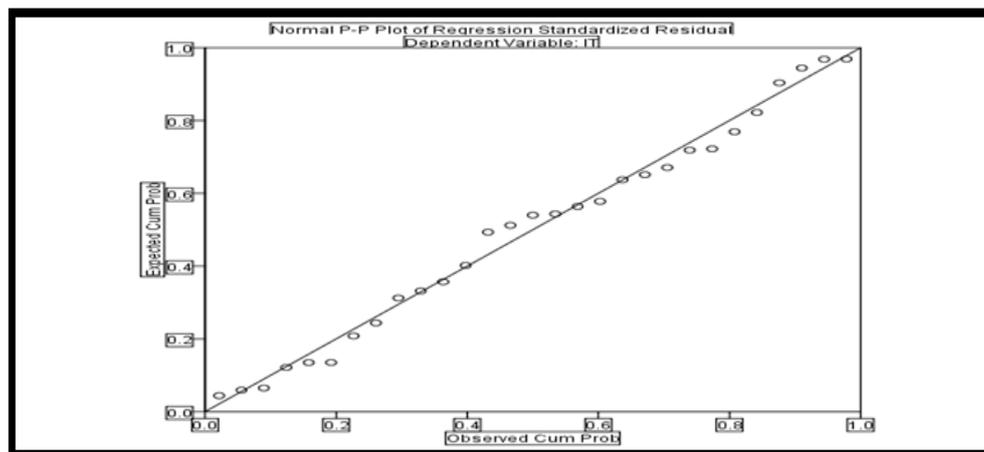
Table 5: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-632268.936	123356.427		-5.126	.000		
	EXR	21028.431	2508.692	.850	8.382	.000	1.000	1.000

a. Dependent Variable: IT Source: SPSS output



Source: SPSS output

Figure 4. Normality check of International trade

Source: SPSS output

Figure 5. The residual of dependent variable (Model fit)

rate as one of the determinants of international trade between two. Kang, J. W., & Dagli, S. (2018), In the context of the global financial crisis (GFC), they studied the correlation between international trade and exchange-rate levels and the growth of global and regional value chains (GVCs). Shama, P. (2020) examined the direction of causality and relationship among international trade, GDP and foreign exchange rate of India.

Objectives of Study

1. To study the trends of Foreign Exchange rate and international trade of India.
2. To study the impact of foreign exchange rate on international trade of India.

RESEARCH METHODOLOGY

The current study has been conducted on the annual values of foreign exchange rate of India (Indian rupees and USD \$) and international trade of India covering the data from 1991 to 2019. The data has been used after differencing (as we have to calculate fluctuations in exchange rate and change in international trade). To study the trends of foreign exchange rate and international trade trend plots and descriptive table analysis has been used. And to study the impact of exchange rate on international trade of India, ordinary least square regression has been used. To check the assumption of stationary (for running OLS regression) ADF unit root test and Phillips Perron unit root test have been applied to the data. In next section, the research presents the empirical results of the study.

EMPIRICAL RESULTS

Table 1 presents the descriptive results of variables taken for study. And Figure 1 and 2 presents the trends of international trade and exchange rate over the period of 29 years (1991 to 2019). The trends show positive movements in both the variables taken. When we see the fluctuations in international trade and exchange rate (Figure 3) exchange rate is fluctuating more and even has negative change while international trade also fluctuating a lot. Table 2 presents the coefficient of correlation between the variables taken and as per results the high correlation between the variables can be concluded. Table 3 presents the results of ADF unit root and Phillips Perron Unit root test. As per the results it can be said that both the time series of exchange rate and international trade are stationary. So it fulfills the assumption to run OLS regression. Table 4 shows the results of regression model summary. The results show that exchange rate is significant in predicting the values of international trade of India. The value of adjusted R-square is .712 which implies that the exchange rate is capable of explaining 71.2% change in international trade of India. Table 5 shows the values of coefficient of exchange rate in explaining international trade and it is significant. Figure 4 presents the distribution of time series data of international trade. The normality of data distribution is one of the assumptions to run ordinary least square regression. From the figure the normal distribution of international trade data can be confirmed.

Figure 5 presents the deviation of residual values from actual and as per figure, it can be said that the model developed is suitable as it shows a good fit to the data taken.

Conclusion and Future direction of Research

This paper's principal results can be summarized as follows. Second, the uncertainty of the exchange rates influences the Indian sense of foreign trade. The second result is that misalignment of the exchange rates greatly affects foreign trade flows. Currency undervaluation promotes exports and limits imports, and vice versa in the case of overvaluation. There is a lot of potential in the study as the study uses only exchange rate as one of the variables to predict international trade of the trade. In future study other variables like GDP, exports and imports policies, tariff and duties etc. can be taken to predict international trade of the country.

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