

IMPACT OF EXCHANGE RATE ON TRADE AND GDP FOR INDIA A STUDY OF LAST FOUR DECADE

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ABSTRACT

This paper empirically investigates the impact of exchange rate volatility on the real exports and Imports in India. Using annual time series data, the empirical analyses has been carried out for the period 1970 to 2011. The study results confirm that real exports and imports are cointegrated with exchange rate volatility, real exchange rate, gross domestic product and foreign economic activity. Our results are implies that the exchange rate has significant negative impact on real exports imports, implying that higher exchange rate fluctuation tends to reduce real exports in India. The empirical results reveal that GDP has a positive and significant impact on India s real exports in the long-run, but the impact turns out to be insignificant in the short-run.

KEY WORDS: Exchange Rate, Exports, Imports, Regression.

1. INTRODUCTION

Real exchange rate is commonly known as a measure of international competitiveness. It is also known as index of competitiveness of currency of any country and an inverse relationship between this index and competitiveness exists. Lower the value of this index in any country, higher the competitiveness of currency of that country will be.

A country's economic size affects its scale of foreign exchange reserve, so the influence of GDP is self-evident; the changes of the exchange rate of a country will cause the fluctuation of foreign trade and then cause the imbalance of the international balance of payments, thus exchange rate also influences the scale of the foreign exchange reserve. The scholars at home and abroad conduct a wide study of the impact of GDP and exchange rate on the foreign exchange reserve. Beyond seas, the parameter model designed by Frenkel (1978) constituted a reserve demand function by regression and correlation analysis of all kinds of, Factors that influences the demand of foreign exchange reserve of one country including GDP to determine their serve demand. Philip and Burke (2001) considered the influence of relative factors such as the per capita GDP to the foreign exchange reserves. Dooley *et al.* (2005) thought that the foreign exchange reserve of some countries with a rapid increase is the by-product of the undervalued real exchange rate policy carried out by them aiming at promoting the export, not that these national monetary and financial authorities are intended. Jeanne and Ranciere (2011) also researched the influence of the actual exchange rate to the optimal reserve. At certain conditions, the underestimated exchange rate theory led to the trade surplus, which increases a country's foreign exchange reserve.

Research related to exchange rate management still remains of interest to economists, especially in developing countries, despite a relatively enormous body of literature in the area. This is largely because the exchange rate in whatever concept, is not only an important relative price, which connects domestic and world markets for goods and assets, but it also signals the competitiveness of a country's exchange power vis-à-vis the rest of the world in market. Besides, it also serves as an anchor which supports sustainable internal and external macroeconomic balances over the medium-to-long term. There is, however, no simple answer to what determine the equilibrium exchange rate, and estimating equilibrium exchange rates and the degree of exchange rate misalignment remains one of the most challenging empirical problems in open economy macroeconomics (Aliyu, 2008).

Understanding the impact currency depreciation has on a nation's trade balance is crucial to the implementation of successful trade policy. In an economic climate where countries are focused on improving their output, often by permitting their currencies to lose value, this topic has become increasingly important. Standard theory dictates that these countries should be able to improve output via exports using depreciation as a tool. As currency depreciates imported goods become more expensive to domestic buyers, while at the same time exports become less expensive to foreign buyers. The combination of these relative price changes should result in a positive movement in a nation's trade balance. However, the results of depreciation are not always consistent with theoretical expectations.

2. REVIEW OF LITERATURE

2.1 INTRODUCTION

Most of the research works related to the exchange rate to India's. Most of the available works on the India's exchange rate have been undertaken only in recent years. However, in this paper, some important research works undertaken in recent years which are very closely connected with the present study are reviewed.

Dr.Nazneen Ahmad and et al (2012) in this study is to examine how the trade balance between the United States and Mexico is influenced by the Peso/Dollar exchange rate as well as US and Mexican GDP. This study also briefly examines the Marshall-Lerner condition and J-curve phenomena. Quarterly GDP and real exchange rate data are analyzed using a statistical regression where the independent variables are domestic GDP, foreign GDP, and real exchange rates.

Shi jun-Guo and et all, (2012) in this study the relevant data from 1985 to 2010,uses a quintile regression model to make an empirical research about the effect of GDP and exchange rate on foreign exchange reserve. Based on the relevant data from 1985 to 2010, this study uses a quintile regression model to make an empirical research about the effect of GDP and exchange rate on foreign exchange reserve. The findings show that: Both GDP and exchange rate have a remarkable influence on the size of foreign exchange reserve and the effect of exchange rate on foreign exchange reserve is higher than GDP at mean place and middle and lower quintile, smaller than GDP at higher quintile.

Qaisar ABBAS and et al (2012) in this paper analyzed the relationship between, gross domestic product between, gross domestic product, inflation and real interest rate with the exchange rate. 10 African countries with 15 years of data from 1996 to 2010 were used for this study. Three independent variables i.e. inflation, interest rate and

Gross Domestic Product were used in order to investigate their relationship which causes exchange rate fluctuations. Pham Thi Tuyet Trinh , (2012) in this study analysed impact of exchange rate on trade balance for developing countries which come to various conclusions. \

Michel Ruta and Marc Auboin ,(2011) in this paper surveys a wide body of economic literature on the relationship between currencies and trade . Specifically, two main issues are investigated: the impact on international trade of exchange rate volatility and currency misalignment. Specifically, two main issues are investigated: the impact on international trade of exchange rate volatility and of currency misalignments. On average, exchange rate volatility has a negative (even if not large) impact on trade flows. The extent of this effect depends on a number of factors, including the existence of hedging instruments, the structure of production (e.g. the prevalence of small firms), and the degree of economic integration across countries.

Joseph and et al (2011) in this study Based on the relevant data from 1985 to 2010, in this study uses a quintile regression model to make an empirical research about the effect of GDP and exchange rate on foreign exchange reserve. The findings show that: Both GDP and exchange rate have a remarkable influence on the size of foreign exchange reserve and the effect of exchange rate on foreign exchange reserve is higher than GDP at mean place and middle and lower quintile, smaller than GDP at higher quintile.

Habib Ahmed and et al, (2011) in this study analyses the impact of exchange rate on macroeconomic aggregates in Nigeria. Based on the annual time series data for the period 1970 to 2009, the research examines the possible direct and indirect relationship between the real exchange rates and GDP growth. The estimation results show that there is no evidence of a strong direct relationship between changes in the exchange rate and GDP growth.

Kumar and et al (2008) in this paper analyzed India after the reforms initiated in the early 1990. Unlike observed in several countries, it finds a rise in exchange rate pass-through to domestic prices until recent years. Based economic factors typically associated with economic liberalization, the persistence of higher inflation is an important factor for the rise in pass-through.

R. Baldwin and et al (2007) the paper examines the industry characteristics that are related to the shift in competitiveness measured as the relative common-currency price ratio between Canadian and US manufacturing prices. They find that relative input costs and relative productivity the two most important factors influencing changes in relative Canada and US price.

Soyoung Kim ,(2005) in this paper provides an explanation for “delayed overshooting” puzzle based on foreign exchange policy reaction to monetary policy, for Canada in which sample interaction between monetary and foreign exchange policies monetary policies are found. As the effects of the monetary policy shocks are more prolonged than that of the foreign exchange policy reaction, the maximum effect is found in delay.

John Romali and et al (2003) they analyzed a model of international trade in which trade depresses real exchange rate volatility and exchange rate volatility impacts trade in products differently according to their degree of differentiation. Using disaggregate

trade data for a large number of countries for the period 1970-1997 they find strong result supporting the prediction that trade dampens exchange rate volatility. They find that once we address the reverse-causality problem, the large effects of exchange rate volatility on trade found in some previous literature are greatly reduced.

Syed Abul Basher and et al (2001) the paper analyzed adopts a single equation rate behavior and exchange rate misalignment in Bangles. While increase in capital inflow, improvement in terms of trade, and increase in government consumption non-tradable result in a real appreciation of currency. Data on GDP, export, import, exchange rate, price indices, gross fixed capital formation, private on public consumption are taken from statistical yearbook of Bangladesh.

Bahmani-Oskoose and Kanitpong (2001) when testing on disaggregated quarterly ARDL co integration between Thailand and he main five trading partners for period 1973-1990, find evidence of the J-curve in bilateral trade with US and Japan only.

Bahmani-Oskoose (2001) investigate the long-run response of Middle Eastern countries' trade balance to devaluation by applying the Engle-Ganger and Johansen-Juselius co integration methodology and find a favorable long-run effect of a real depreciation on the trade balance for seven countries.

Angel Serrat and et al (2000) in this paper examined the exchange rate behavior in a multilateral target zone. Introduces a new class of stochastic processes in economics, namely multidimensional reflected diffusion processes. The restriction on interventions imposed by cross-currency constraints. Cooperation in sharing the intervention burden in general, the exchange rate between any two countries will depend on the fundamentals of third countries in a multilateral target zone model .

Alan C.Stockman (1990) in this paper empirical analysis of the j-curve. First, we document strong violation in the distributional assumptions that underlie nearly all previous work on this issue. He find some evidence with the of a j-curve in the data.

RudigerDornbush and et al(1980) in this paper develops a of exchange rate determination that integrates the roles of relative prices, expectation, and the assets markets, and emphasizes the relationship between the behavior of the exchange and the current account.

David and et al (1998) in this paper examined Central bank that are primarily concern with the behavior of prices will use monetary policy to try insulating prices from exchange rate changes. Prices than appear unresponsive to changes in the exchange rate.

Maurice Obstfeld and et al (1995) they develop an analytically tractable two country model that marries a full account of global macro-economic dynamics to a supply framework based on monopolistic competition and sticky nominal prices.

Prof.Hasan Vergil (1989) in this paper empirically investigates the impact of real exchange rate volatility on the export flows of Turkey to the United States and its three major trading partners in the European Union for the period 1990:1-2000:12. The standard deviation of the percentage change in the real exchange rate is employed to measure the exchange rate volatility. Co integration and error-correction models are used to obtain the estimates of the co integrating relations and the short-run dynamics, respectively.

3. METHODOLOGY:

The time series data on total exchange rate, total export, total import and GDP of India.

The data of India have been collected for this study mainly from the World Bank publications and UNCTAD. The data on total exchange rate of India, total value of exports, the value of imports and the value of GDP of India. The total value of exchange rate, trade and the value of GDP of India have been taken from UNCTAD annual reports. Time period taken for analyses for the study is the 30 years period from 1981 to 2010.

For uniformity in analysis, all the data on exchange rate, trade and GDP are taken in US Dollars. The growth of the exchange rate, export and import has seen successes through linear regression techniques. The growth of exchange rate and import is successes through index, annual growth rate and averages.

4. IMPORTS AND EXPORTS OF THE DIFFERENT COMPONENTS OF EXCHANGE RATE:

The exchange rate may be classified either on the basis of the time period maturity or on the basis of the sector in which the external assistance has been utilized. In this chapter, an attempt is made to study the growth of the exchange rate, during the period from 1981 to 1990 from 1991 to 2000 and from 2001 to 2010. Hence, in this study also, the same type of classification, and availability of data.

4.1 Total Exchange Rate in India (1981-2010)

The table 4.1 shows that the data on total exchange rate in India. During decade from 1981 to 1990. The total Exchange Rate as increased considerably. The value of Exchange Rate as increased from, 7.9 (1 Dollar) Rupees in 1981 to 16.64(1 Dollar) Rupees in 1990 same. The decade the highest annual growth rate, was 14.96 per cent in 1990, and the lowest the annual growth rate 1.46 per cent in 1988. In this same decade the average value of total Exchange Rate and annual growth rate works out to 11.78 Rupees and Annual growth rate is 12.17 per cent per year respectively.

During decade from 1991 to 2000, the total exchange rate as increased considerably the value of the exchange rate as increased from 17.9(1 Dollar)Rupees in 1991 to 43.33(1 Dollar)Rupees in 2000. The same time period the highest index number was 241 in 2000. The same decade the highest annual growth rate was 36.39per cent in 1992, and the lowest was annual growth rate 0.10 per cent in 1995. In this same decade the average value of total Exchange Rate and annual growth rate works out to 43.73 rupees and 15.73per cent per year respectively.

During decade from 2001 to 2010 the total Exchange Rate as increased considerably the value of Exchange Rate has increased from 48.3(1 Dollar)Rupees in 2003 to 47.41(1 Dollar)Rupee in 2010. The same time period the highest index number was 105.95 in 2003. The same decade the highest annual growth rate was 14.10 per cent in 2009 and the lowest the annual growth rate 1.46 per cent in 2006. In this decade the average value of total Exchange Rate and annual growth rate works out to 45.68Rupees and 0.42 per cent per year respectively.

Table 4.1: Total Exchange Rate in India (1981-2010)
[Figure in Rupees (one Dollars)]

Year	Exchange Rate	Index No	AGR
1981	7.9092	100	-
1982	8.9683	113.39	13.39
1983	9.666	122.21	7.77
1984	10.34	130.73	6.97
1985	11.8886	150.31	14.97
1986	12.2349	154.69	2.91
1987	12.7782	161.56	4.44
1988	12.9658	163.93	1.46
1989	14.4817	183.09	11.69
1990	16.6492	210.50	14.96
Average	11.78		12.17
1991	17.94	100	
1992	24.47	136.39	36.39
1993	30.64	170.81	25.23
1994	31.36	174.80	2.33
1995	31.39	174.99	0.10
1996	33.44	186.42	6.53
1997	35.49	197.85	6.12
1998	37.16	207.12	4.68
1999	42.07	234.47	13.20
2000	43.33	241.50	2.99
Average	32.73		15.73
2001	45.68	100	
2002	47.69	104.39	4.39
2003	48.39	105.94	1.47
2004	45.95	100.58	-5.04
2005	44.93	98.34	-2.21
2006	44.27	96.91	-1.46
2007	45.28	99.12	2.28
2008	40.24	88.08	-11.13
2009	44.91	100.50	14.10
2010	47.41	103.79	3.26
Average	45.68		0.42

Sources: UNCTAD

4.2 Total Export in India (1981-2010)

The table 4.2 shows that the data on total Export in India. During the decade from 1981 to 1990 the total Export has increased considerably the value of Export has increased from 2374.58 Millions of US Dollars in 1981 to 3542.78 Millions of US Dollars in 1990. The same time period the highest index number was 159.19 in 1990. The same decade the highest annual growth rate was 12.83 per cent in 1988 and lowest the annual growth rate -0.06 per cent in 1988. This decade the average value of total Export and annual growth rate works out to 2951.69 Millions of US Dollars and 6.67 per cent per year respectively.

During the decade from 1991 to 2000 the total Export has increased considerably the value of Export has increased from 3458.573 Millions of US Dollar in 1991 to 5730.38 Millions of US Dollar in 2000. The same time period the highest index number was 159.19 in 1990. The same decade the highest annual growth rate was 12.83 in 1988 and lowest the annual growth rate 0.08 per cent in 1993. In this decade the average value of total Export and annual growth rate, works out to 2951.69 Million of US Dollars and 7.25 per cent per year respectively.

Table 4.2: Total Export in India (1981-2010)
[Figure in Millions of US Dollars]

Year	Export	Index No	AGR
1981	2374.58	100	
1982	2511.869	105.78	5.78
1983	2491.789	104.93	-0.79
1984	2569.145	108.19	3.10
1985	2740.97	115.42	6.68
1986	2818.323	118.68	2.82
1987	3142.209	132.32	11.49
1988	3545.092	149.27	12.82
1989	3542.78	149.19	-0.06
1990	3780.19	159.19	6.70
Average	2951.69		6.67
1991	3468.573	100	
1992	3756.771	108.30	8.30
1993	3787.172	109.18	0.80
1994	4330.701	124.85	14.35
1995	4534.419	130.73	4.70
1996	4713.497	135.89	3.95
1997	5191.234	149.66	10.13
1998	4895.255	141.13	-5.701
1999	5380.887	155.13	9.920
2000	5730.38	165.20	6.49
Average	4578.89		7.25
2001	5890.906	100	
2002	5899.627	100.15	0.15
2003	6464.692	109.74	9.58
2004	7285.5	123.67	12.69
2005	8258.829	140.19	13.36
2006	8989.754	152.60	8.85
2007	10958.77	186.02	21.90
2008	11692.06	198.48	6.69
2009	12741.68	216.29	8.98
2010	16019.53	271.94	25.73
Average	9420.13		19.14

Sources: UNCTAD

During decade from 2001 to 2002 the total Export has increased considerably the value of Export has increased from 5890.90Millions of US Dollar in 2001to 16019.53Millions of US Dollar in 2010. The same time period the highest index number was 271.94 in 2010. The same decade the highest annual growth rate was 25.73 per cent and the lowest the annual growth rate 0.15 per cent in 2002. In this decade the average value of total Export and annual growth works out to, 9420.13 Millions of US Dollars and 19.14 per cent per year c respectively.

4.3 Total Import in India (1981-2010)

The table 7 shows that the data on total import in India. During the decade from 1981 to 1990, the total Import has increased considerably the value of Import has increased from 158418.2 Millions of US Dollars in 1981, to 23579.6 Millions of US Dollars in 1990. The same time period the highest index number was 152.93 in 1990. The same decade the highest annual growth rate was 14.74 per cent in 1990 and the lowest he annual growth rate -3.18 per cent in 1986. In this decade the average value of Import and annual growth rate works out to17079.24Millions of US Dollars and 5.88 per cent per year respectively.

During the decade from 1991 to 2000 the total Import has increased considerably the value of Import has increased from 20744.8 Millions Of US Dollar in 1991to 51522.9 Millions of US Dollars in 2000. The same time period the highest index number was 251.97 in 2000. The same decade the highest annual growth rate was 29.29 per cent in 1995 and the lowest the annual growth rate -3.35 percent in 1993. In this decade the average value of total Import and annual growth rate works out to 34921.35 Millions of US Dollars and 16.88 percent per year respectively

During the decade from 2001 to 2010 the total Import has increased considerably the value of Import as increased from 5092 Millions of US Dollars in 2001 to 3504.1Millions of US Dollar in 2010. The same period the highest index number was 6370.71 in 2008. The same decade the highest annual growth rate was 1299.63 per cent in 2008 and the lowest the annual growth rate 12.15 per cent 2002. In this decade the average value of total Import and annual growth rate works out to 6703.48 Millions of US Dollars and 3.46 per cent per year respectively.

Table .7: Total Import in India (1981-2010)
[Figures in Millions of US Dollars]

Year	Import	Index No	AGR
1981	15418.2	100	
1982	14786.1	95.90	-4.09
1983	14060.7	91.19	-4.90
1984	15272.3	99.05	8.62
1985	15928	103.30	4.39
1986	15421.1	100.01	-3.18
1987	16675.3	108.15	8.13
1988	19101.7	123.89	14.55
1989	20549.4	133.28	7.59
1990	23579.6	152.93	14.74
Average	17079.24		5.88
1991	20447.8	100	
1992	23578.6	115.31	15.31
1993	22788.4	111.44	-3.35
1994	26842.7	131.27	17.79
1995	34706.9	169.73	29.29
1996	37942.2	185.55	9.32
1997	41431.9	202.62	9.197
1998	42979.9	210.19	3.73
1999	46972.2	229.71	9.28
2000	51522.9	251.97	9.68
Average	34921.35		16.88
2001	5092	100	
2002	5617	112.15	12.15
2003	7257.7	141.96	26.57
2004	9975.4	197.99	39.47
2005	14270	283.51	43.19
2006	18410	36.53	-87.11
2007	2293.9	455.17	1145.89
2008	321.5	6370.71	1299.63
2009	257.2	501.40	-19.98
2010	3504.1	695.01	36.17
Average	6703.48		3.46

Sources: UNCTAD

4.5 TREND ANALYSIS OF EXCHANGE RATE,EXPORT AND IMPORT:

In this study with analysis and interpretation of exchange rate in Export and Import in India. This is used on the availability of data. Various tools used for analysis of Export and Import during the time period from 1981 to 2010. The tools like Regression (simple linear and semi log linear).

REGRESSION ANALYSIS:

The relationship between the total Exchange Rate and DGP, simple linear Regression model is used by taking the total Exchange Rate as the independent variable for the 3 decade separately. Total Exchange Rate and GDP are measured in millions of Dollar. The regression co-efficient in this case will measure the increase in GDP in Millions of Dollars. If the total Exchange Rate is increased by the one million Dollars. The regression co-efficient is also tested for the null hypothesis that its value is zero. The co-efficient determination, R^2 will measure the ability of the independent variable, Total exchange rate, Import and Export the variation in GDP.

The table shows that the recent of the trend analysis revealed that the exchange rate in India, increased annual by 0.86 Rupees in 1980-81 to 1989-90. The regression coefficients of semi linear model implies that the exchange rate, increase at the compound growth rate of 7.68 percent per year. The regression, coefficient in both, model at significant 1 percent model the value of adjusted R^2 is 0.96 percent in both models. In means that the exchange rate have registered the linear trend in this period, and 97 per cent of variation in the dependent variables by explain the independent variables.

The results of the trend analysis revealed that the Export in India has increased annual by 163.21 Millions of US Dollars in 1980-81 to 1989-90. The Regression coefficients of semi log linear model implies that the Export has increased at the compound growth rate of 5.55 per cent per year. The Regression coefficient in both model the significant at 1 per cent level. The value of adjusted R^2 is 0.92 per cent in both model are means that the Export have registered a consistent linear trend in this period and 94 per cent of variation in the dependent variables by explain the independent variables.

The results of the trend analysis revealed that the Import in India has increased annual by 864.87 Millions of US Dollars in 1980-81 to 1989-90. The Regression coefficients of semi log linear model implies that the Import increased at the compound growth rate of 4.91 per cent per year. The Regression coefficient in both model are significant at 1 per cent model the value of adjusted R^2 is 0.71 per cent in both model. It means that the Import have registered the linear trend in this period and 74per cent of variations dependent variables by explain in the independent variables.

The results of the trend analysis revealed that the exchange rate in India, has increased annual by 0.05 Millions of US Dollar in 1990-91 to 1999-2000. The regression coefficients of semi log linear model implies that the exchange rate has increased at the compound growth rate of -226.74 per cent per year. The regression, coefficient in both, models are significant at 1 per cent level the value of adjusted R^2 is 0.86 per cent in both models. In means that the exchange rate have registered the linear trend in this period, and 83 per cent of variation in the dependent variables by explain the independent variables.

The results of the trend analysis revealed that the Export in India, has increased annual by 242.58 Millions of US Dollars in 1990-91 to 1999-2000. The Regression coefficients of semi linear model implies that the Export has increased at the

compound growth rate of 5.55 per cent per year the Regression coefficient in both model are significant at 1 per cent model the value of adjusted R^2 is 0.95 per cent in both model. It means that the Export have registered a consistent linear trend in this period and 95 per cent of variation in the dependent variables by explained the independent variables.

The results of the trend analysis revealed that the Import in India, has increased annual by 3584.19 Millions of US Dollar in 1990-91 to 1999-2000. The Regression coefficients of semi log linear model implies that the Import has increased at the compound growth rate of 11.29 per cent per year. The Regression coefficient in both model at significant 1 per cent model the value of adjusted R^2 is 0.97 per cent in both model. It means that the Import have registered a consistent linear trend in this period and 96 per cent of variations in the dependent variables by explained by the independent variables.

The results of the trend analysis revealed that the exchange rate in India, has increased annual by 0.01 Millions of US Dollars in 2000-01 to 2009-10. The regression coefficients of semi linear model implies that the exchange rate, increased at the compound growth rate of 217.04 per cent per year. The regression, coefficient in both, model are significant at 1 per cent level. The value of adjusted R^2 is 0.86 per cent in both models. In means that the exchange rate have registered a consistent linear trend in this period, and 82 per cent of variation in the dependent variables explained by the independent variables.

The results of the trend analysis revealed that the Export in India, has increased annual by 1072.36 Millions of US Dollars in 2000-01 to 2009-10. The Regression coefficients of semi log linear model implies that the Export has increased at the compound growth rate of 11.96 per cent per year. The Regression coefficient in both model are significant at 1 percent level the value of adjusted R^2 is 0.92 percent in both model. It means that the Export have registered a consistent linear trend in this period and 98 per cent of variations in the dependent variables explained by the independent variables.

The results of the trend analysis revealed that the Import in India, has increased annual by 121585.87 Millions of US Dollars in 2000-01 to 2009-10. The Regression coefficients of semi log linear model imply that the Import has increased at the compound growth rate of 33.38 per cent per year. The Regression coefficient in both model are significant at 1 per cent level the value of adjusted R^2 is 0.04 per cent in both model. It means that the Import have registered a consistent linear trend in this period and 31 per cent of period variations the dependent variables explained by the independent variables.

Table4.5:-The Results Trend Analysts Of The Exchange Rate Export And Import In To India

S.No	Year	Variable	Model	A	B	S.E.(B)	T	R ²	Adjusted R ²	Sig	C.G.R
1	1980 to 1990	Exchange Rate	Simlpe Linear Model	7.074	0.86	0.061	4.036	0.961	0.96	0.000	
			Semilog Linear Model	2.038	0.07	0.005	16.079	0.970	0.97	0.000	7.68
		Export	Simple Linear Model	2054.03	163.21	16.196	10.077	0.927	0.92	0.000	
			Semilog Linear Model	7.68	0.05	0.005	11.626	0.944	0.94	0.000	5.55
		Import	Simple Linear Model	12322.48	864.87	179.687	4.813	0.743	0.71	0.001	
			Semilog Linear Model	9.47	0.05	0.009	5.108	0.765	0.74	0.001	4.91
2	1990 to 2000	Exchange Rate	Simple Linear Model	-2.45	0.05	0.001	7.471	0.875	0.86	0.000	
			Semilog Linear Model	1.46	-0.24	0.502	-0.47	0.87	0.83	0.65	-226.74
		Export	Simple Linear Model	3244.68	242.58	17.690	13.713	0.959	0.95	0.000	
			Semilog Linear Model	8.12	0.05	0.00	12.97	0.96	0.95	0.00	5.55
		Import	Simple Linear Model	15208.30	3584.19	206.41	17.37	0.97	0.97	0.00	
			Semilog Linear Model	9.82	0.11	0.01	14.17	0.96	0.96	0.00	11.29
3	2000 to 2010	Exchange Rate	Simple Linear Model	-10.82	0.01	0.001	7.55	0.88	0.86	0.00	
			Semilog Linear Model	-8.56	1.43	0.22	6.47	0.84	0.82	0.00	217.04
		Export	Simple Linear Model	3522.16	1072.36	102.37	10.46	0.93	0.92	0.00	-
			Semilog Linear Model	8.47	0.11	0.01	18.99	0.98	0.98	0.00	11.96
		Import	Simple Linear Model	-220058.28	121585.87	105576.42	1.15	0.14	0.04	0.28	-
			Semilog Linear Model	10.29	0.29	0.13	2.23	0.38	0.31	0.06	33.38

Table 4.6:- Results the regression analysis in India:

S.No	VARIABLE	YEAR	MODEL	A	b	S.E.b	t	R2	Adjusted R2	Sig
1	Exchange Rate on GDP	1981-1990	Simple linear Model	12.09	17.59	0.00	13.75	0.94	0.95	0.00
		1990-2000	Simple linear Model	259.11	15.84	17.84	13.29	0.96	0.95	0.00
		2000-2010	Simple linear Model	466.92	12.24	0.52	-0.96	0.11	-0.07	0.36
2	Export on GDP	1981-1990	Simple linear Model	-15190.99	90.32	4.21	21.24	0.98	0.98	0.00
		1990-2000	Simple linear Model	-49067.74	91.95	7.06	13.00	0.96	0.95	0.00
		2000-2010	Simple linear Model	-81095.24	127.75	37.59	3.04	0.34	0.48	0.02
3	Import on GDP	1981-1990	Simple linear Model	13153.70	92.94	2.30	6.05	0.82	0.89	0.00
		1990-2000	Simple linear Model	149039.34	95.35	0.24	25.94	0.99	0.99	0.00
		2000-2010	Simple linear Model	2525086.43	-0.024	1.88	0.13	0.13	0.99	0.00

For India, the regression coefficient in the First decade is 17.591 and it is significant. GDP increased by 17.591 Millions of US Dollars, if exchange rate is increased by one Millions of US Dollars in India in the first decade. However, total exchange rate high explanatory power. It is capable of explaining 95 per cent of variation in GDP. If total exchange rate influences the GDP significant in the first decade in India.

For India, the regression coefficient in the Second decade is 15.859 and it is significant. GDP increased by 15.859 Millions of US Dollars, if exchange rate is increased by one Millions of US Dollars in India in the second decade. However, total exchange rate high explanatory power. It is capable of explaining 95 per cent of variation in GDP. If total exchange rate influences the GDP significant in the second decade in India.

For India, the regression coefficient in the Third decade is 12.240 and it is insignificant. GDP increased by 12.240 Millions of US Dollars, if exchange rate is increased by one Millions of US Dollars in India in the third decade. However, total exchange rate high explanatory power. It is capable of explaining -0.07 per cent of variation in GDP. If total exchange rate influences the GDP insignificant in the third decade in India.

For India, the regression coefficient in the First decade is 90.315 and it is significant. GDP increased by 90.315 Millions of US Dollars, if total export is increased by one Millions of US Dollars in India in the first decade. However, total export high explanatory power. It is capable of explaining 98 per cent of variation in GDP. If total export influences the GDP significant in the first decade in India.

For India, the regression coefficient in the Second decade is 91.950 and it is significant. GDP increased by 91.950 Millions of US Dollars, if total export is increased by one Millions of US Dollars in India in the second decade. However, total export high explanatory power. It is capable of explaining 95 per cent of variation in GDP. If total export influences the GDP significant in the second decade in India.

For India, the regression coefficient in the Third decade is 127.754 and it is significant. GDP increased by 127.754 Millions of US Dollars, if total export is increased by one Millions of US Dollars in India in the third decade. However, total export high explanatory power. It is capable of explaining 48 per cent of variation in GDP. If total export influences the GDP significant in the third decade in India.

For India, the regression coefficient in the First decade is 92.943 and it is significant. GDP increased by 92.943 Millions of US Dollars, if total import is increased by one Millions of US Dollars in India in the first decade. However, total import high explanatory power. It is capable of explaining 89 per cent of variation in GDP. If total import influences the GDP significant in the first decade in India.

For India, the regression coefficient in the Second decade is 95.352 and it is significant. GDP increased by 95.352 Millions of US Dollars, if total import is increased by one Millions of US Dollars in India in the second decade. However, total import high explanatory power. It is capable of explaining 99 per cent of variation in GDP. If total import influences the GDP significant in the second decade in India.

For India, the regression coefficient in the Third decade is -0.24 and it is insignificant. GDP increased by -0.24 Millions of US Dollars, if total import is increased by one Millions of US Dollars in India in the third decade. However, total import high explanatory power. It is capable of explaining -0.13 per cent of variation in GDP. If total import influences the GDP insignificant in the third decade in India.

CONCLUSION:

This research has provided empirical estimates of the Economic relationship between Exchange Rate, Inflation, Government Revenue and Income growth in India. In the long-run the exchange rate and income may not drift a part, but in the short run their relationship is weak and indirect. Together these results provide confirmation that there is no evidence of a strong direct relationship between changes in the exchange rate and GDP growth. Rather India's Economic growth has been directly affected by fiscal and monetary factors. Particularly the growth of government revenue and economic growth.

The long-run effects are predicted in models that assume market distortions such as information problems or product market failures. In this short run when some prices in the economy can be sticky, movements in nominal exchange rates can alter relative prices and affect international trade flows. These short run affects however, are not straight forward, as they are likely to depend on specific characters of the economy, including the currency in which domestic producers invoice their products and the structure of trade.

A doubling of real exchange rate volatility decreases trade in differentiated products by about two per cent. Developing country exports of manufactures may be much more greatly affected due to a combination of greater exchange rate volatility and greater sensitive of their exporters to that volatility. The investigated the relationship between the tax revenue to GDP ratio, trade liberalization and changes in the exchange rate using a panel data set of sub-Saharan countries. Our results suggests that trade liberalization, accompanied by appropriately supportive monetary policies, may preserve tax yield. This result has important implications for countries that have been reluctant to undertake trade liberalization for fear of the revenue consequences.

When a large domestic economy liberalizes and gets increasingly integrated with the global economic, the influence of the external sector, including the exchange rate movement could become substantial during the transition. The finding support those who point out that exchange rate volatility have a negative impact on trade.

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