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IMPACT OF EXCHANGE RATE VOLATILITY ON INDIA'S INTERNATIONAL TRADE & ECONOMIC GROWTH

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Abstract

The tremendous surge in capital inflows and increase in cross border financial transactions over the last three decades have believed to add substantial volatility and uncertainty to the behaviour of international exchange rate.

The issue of exchange rate volatility, however receive serious consideration in the Indian economic policy decisions during the second half of 1990s, when as a part of the extensive economic liberalization package initiated in 1991, Indian exchange rate system underwent a series of structural changes. The introduction of current account convertibility in August 1994 and gradual opening of the capital account to foreign capital flows have paved the way for greater volatility in the Rupee exchange rate.

The exchange value of the Indian Rupee fell to Rs. 82.21 per US Dollar in March 2023 from Rs. 44.45 per US Dollar in April 2011. This volatility introduced uncertainty in the domestic market and influenced imports, exports and GDP growth rate.

On this background, an attempt is made in this paper to examine the impact of exchange rate volatility on India's international trade and economic growth. For this, twelve year time period i.e. from 2011 to 2023 is selected for the purpose of the study.

The general impression of secondary data clearly reveals that exchange rate volatility has negatively impacted India's Export and GDP growth rate but positively impacted India's import. Therefore, the present study recommends that the RBI should pursue sustainable and stable exchange rate policy measures to promote greater exchange rate stability that would help to enhance the exports and GDP growth rate of the economy. Moreover, the study strongly recommends that RBI intervention should be needed to take control over depreciation of rupee in the short-run that adversely affects the exports.

Key words: *Liberalization, Exchange rate, Volatility, Export, Import and GDP growth rate.*

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Introduction:

The tremendous surge in capital inflows and increase in cross border financial transactions over the last three decades have believed to add substantial volatility and uncertainty to the behaviour of international exchange rate. The introduction of market forces into the foreign exchange market have considerably raised the level and frequency of exchange rate fluctuations, triggering lively debate and substantial research interest over the transmission channels of exchange rate volatility and its impact on the real economy.

The issue of exchange rate volatility, however receives serious consideration in the Indian economic policy decisions during the second half of 1990s, when as a part of the extensive economic liberalization package initiated in 1991, Indian exchange rate system underwent a series of structural changes. The introduction of current account convertibility in August

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1994 and gradual opening of the capital account to foreign capital flows have paved the way for greater volatility in the Rupee exchange rate. In this context observed risk and uncertainty as an integral part of the Indian forex market, stemming mostly from the prevailing Rupee-USD exchange rate (Broll, U., Eckwert, B., 1999).

According to Reserve Bank of India (RBI) Report (2010), "In recent years, capital flows have become the dominant source of exchange rate volatility in India." For India USD-INR (INR per one USD) exchange rate is primarily significant due to two reasons. First, the USD has been an international currency for decades, and, most of the current account transactions are made in USD. Second, US has been the major trading partner of India even before liberalization measures were undertaken in 1991. Accordingly, the movements in USD - INR exchange rate affect traders, investors, stock market brokers and the government. Further, exchange rate market in India is characterized by 'managed floating' where RBI's intervention is limited to curbing excessive fluctuations in INR that arise due to risk emanating from capital flows (Patra and Pattanaik, 1998). In one speech (April 19, 2016), Raghuram Rajan states, 'We let the exchange rate move, we never stand in the way, but we pick some as flows come in'. This means that the central bank intervention in India is motivated to let exchange rate move according to the fundamentals; and not entirely by capital flows.

The perception of volatility in the foreign exchange market has widened over time and has emerged into an independent field of inquiry.

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On this background, an attempt is made in this paper to examine the impact of exchange rate volatility on India's international trade and economic growth. For this, twelve year time period i.e. from 2011 to 2023 is selected for the purpose of the study.

Objective of the Study:

1. To examine the impact of exchange rate volatility on India's international trade and economic growth.
2. To suggest some policy measures.

Hypothesis:

H1: There is a negative impact of exchange rate volatility on export and economic growth.

H2: There is a positive impact of exchange rate volatility on import.

H3: There is a strong relation between exchange rate volatility, international trade and economic growth.

Methodology of the Study:

The present study is based mainly on the secondary data collected from published and unpublished records i.e. 'Handbook of statistics on Indian Economy, published by RBI available on 'RBI website www.rbi.org.in' Annual Report, Dept. of Commerce, Economic Survey Govt. of India, Data Bank, World Development Indicator, National Statistical Office. The data gathered is organized in tabular form and analyzed in order to draw meaningful conclusion.

Review of Literature:

The empirical and theoretical literature shows conflicting opinions about the relationship of exchange rate volatility with international trade and GDP growth rate.

The theoretical basis for positive effect of exchange rate volatility on foreign trade was also forwarded by Broll and Eckwert (1999). Oskooee and Mitra (2007) found that in the short run, trade between India and USA due to exchange rate volatility was affected negatively.

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Studies such as by Klein (1990) and Chou (2000) have found cases where a rise in exchange rate volatility may have both positive and negative implications on exports and imports, depending on products' and countries' cases.

The other empirical studies (Mougoue and Aggrawal (2011); Mukherjee and Pozo (2011) show a negative relationship between exchange rate volatility and international trade. In general, these studies highlighted that the fluctuations in the exchange rate of the host country can adversely affect the trading activity and ultimately the trading volume can be decreased.

McKenzie (1999) concludes that, the empirical studies have had "greater success in deriving a statistically significant relationship between volatility and trade". While a large number of empirical studies have shown negative impacts of exchange rate volatility on total trade, exports and imports, some have also reported positive and insignificant consequences.

The stability of exchange rates promotes growth through trade and macroeconomic stability. A reduction in exchange rate uncertainty increases the efficiency of the price mechanism at the international level (Schnabl, 2008), which affects growth performance by increasing capital market efficiency in capital allocation (McKinnon, 1963). Lower exchange rate volatility is also associated with the enhancement of economic growth through FDI and higher credit access (Arratibel et al., 2011).

Caballero and Corbo (1989), show that higher volatility of the real exchange rate hurt exports in a large group of developing countries. Arize et al. (2000) and Dell' Ariccia (1999) provides a stronger evidence of a negative impact of exchange rate volatility on trade flows.

Data Analysis and Interpretation:

The impact of exchange rate volatility can be judged by considering the trends of export, import and GDP growth rate during the study period.

Table No. 1 Variations in India's Foreign Trade & GDP

Year	**Total Export** (US $ Million)	**Total Import** (US $ Million)	**GDP** (Rupees Crore)	**GDP %**
2011-12	305963.9	489319.5	8106947	5.2
2012-13	300400.6	490736.6	8546277	5.5
2013-14	314415.7	450213.6	9063647	6.4
2014-15	310352.0	448033.4	9712132	7.4
2015-16	262291.1	381007.8	10491868	8.0
2016-17	275852.4	384357.0	11328285	8.3
2017-18	303526.2	465581.0	12034170	6.8
2018-19	330078.1	514078.4	12733800	6.5
2019-20	313361.0	474709.3	13236101	3.7
2020-21	291808.5	394435.9	12681481	-6.5
2021-22	422004.4	613052.1	13798025	8.7
2022-23	405942.1	653470.2	10786755	7.2

Source: Directorate General of Commercial Intelligence and Statistics, National Statistical Office (NSO),

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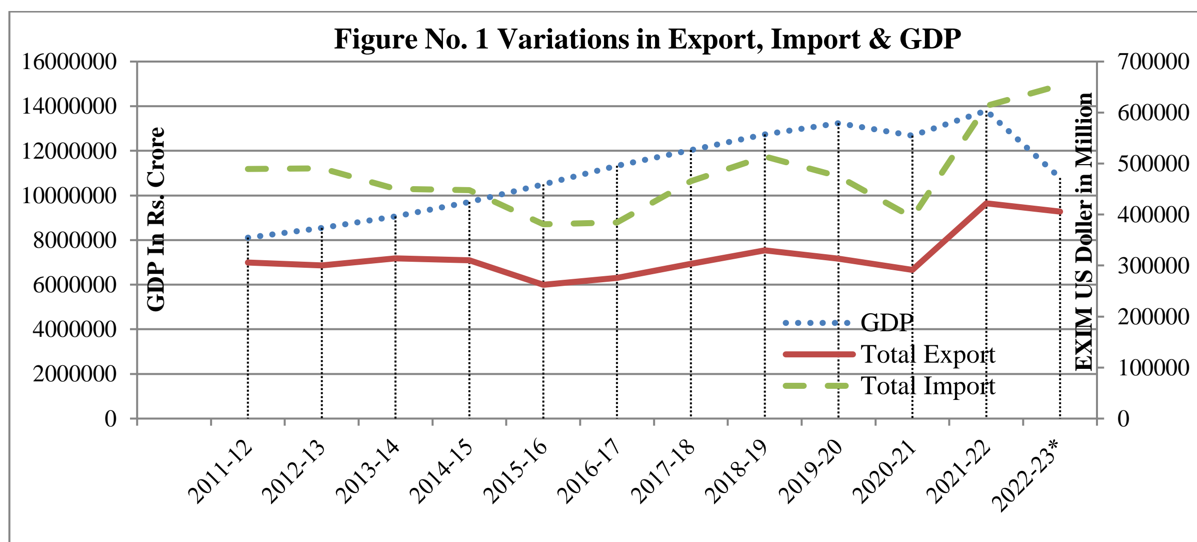

1. **Variations in Exports:-**

As per the Directorate General of Commercial Intelligence and Statistics, National Statistical Office, India's Exports increased significantly and continuously from 305963.9 million US dollars in 2011-12 to 314415.7 million US dollars in 2013-14. However, due to global slowdown India's exports declined continuously to 262291.1 million US dollars in 2015-16. But again India's export increased to as high as 330078.1 million US dollars in 2018-19 and fell down to 291808.5 million US dollars in 2020-21. After COVID India's exports increased significantly to 422004.4 million US dollars in 2021-22 but again fell down to 405942.1 million US dollars in 2021-22. This shows that India's exports increased by almost 25% during the study period. No doubt the growth performance of exports is very impressive. The figure No. 1 shows that exchange rate volatility has negatively impacted India's exports during 2011-12 to 2022-23.

Export sector has contributed significantly to India's GDP growth rate. However, GDP growth shows dismal performance because it is affected by the exchange rate volatility between INR/USD caused by global slowdown and COVID.

2. **Variations in Imports:-**

For a developing country like India import has always remained higher than export. As per the Directorate General of Commercial Intelligence and Statistics, National Statistical
Office, India's import was 489319.5 million US dollars in 2011-12 which increased to as high as 490736.6 million US dollars in 2012-13. Then after due to global slowdown import decreased to 381007.8 million US dollars in 2015-16 and further increased rapidly to 514078.4 million US dollars in 2018-19. But again fell down to 394435.9 million US dollars in 2020-21. However, India's import increased significantly and remained all time high to 653470.2 million US dollars in 2022-23 due to Russia and Ukraine war. The following Figure No.2 shows that the exchange rate volatility between INR/USD has positively impacted India's import.

3. **Variations in GDP Growth Rate:-**

The growth rate of GDP in India in the last one and half decade has been attributed to both demand and supply-side factors. But it has been suggested that Keynesian expansion or the increase in aggregate demand (export) was responsible for pushing up growth rates. It is also important to note that India's growth is driven by domestic

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consumption (import).

The trends depicted in Figure No. 1 show the impact of the exchange rate volatility on India's GDP growth rate. As per the National Statistical Office, the GDP growth rate in India was 5.2% in 2011-12. The GDP growth rate started decelerating right from the 2016-17 which slipped to 3.7% in 2019-20 and as a result of COVID, GDP growth rate became negative in 2020-21 . It was improved quite significantly to 8.7% and deteriorated to 7.2% in 2022-23

The crisis brewing within the Indian economy has gained unanimous acceptance by now. Even the latest annual report of the IMF for the fiscal year 2019-20 confirmed that the Indian economy has indeed hit a rough patch. The GDP growth rate of the economy has slipped to 4.8% in the first quarter of 2020 (IMF), the lowest in over six years. The recent rise in oil price, global slowdown and fall in exports, sluggish consumer demand and failing manufacturing sector, increase in rate of interest and inflow and outflow of capital resulted in exchange rate volatility and this has led to variation in GDP growth rate.

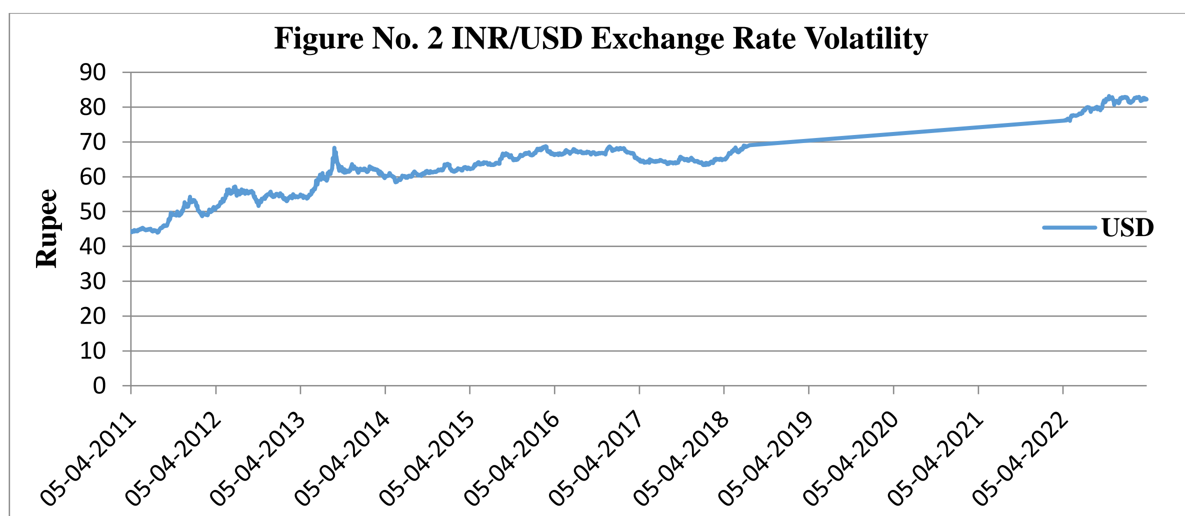
It is expected that policymakers are required to achieve the higher rate of economic growth through increase in export by operating the economy at full capacity and avoiding the exchange rate volatility.

4. **Exchange Rate Volatility:-**

The following Figure No. 2 shows that, with the advent of the floating exchange rate regime, currency volatility in emerging markets increased in a significant way. India is also no exception to this pattern. It can be observed from Figure No. 2, the exchange rates of Indian Rupee with respect to the US$ fluctuated during the period since 2011.

Moreover, as can be observed from Figure No. 2, with the Indian economy getting increasingly integrated with world financial market, volatility in currency market returns got higher than before, in particular after the global financial crises.

A rise in exchange rate volatility caused fall in exports, production, income and GDP growth rate at home and eventually aggregate consumption could decline which further caused to an increase in import.



Source: Compiled by Author based on data from Reserve Bank of India publications.

The impact of exchange rate volatility on international trade and economic growth is negative and statistically significant. This result also shows an increase and decrease in export, imports as well as in GDP growth

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rate.

Major Finding : It is gratifying to note that, the research undertaken by the researcher and the statistical analysis of the impact of exchange rate volatility on international trade and economic growth clearly indicate that,

H1: There is a negative impact of exchange rate volatility on export and economic growth.

H2: There is a positive impact of exchange rate volatility on import.

H3: This hypothesis is also accepted as exchange rate volatility has impacted India's export, import and GDP growth rate.

Implication:

The general impression of secondary data clearly reveals that exchange rate volatility has negatively impacted India's Export and GDP growth rate but positively impacted India's import. The inference so drawn is applicable only to the Indian economy. There is a need to have yet another empirical assessment of the relationship between exchange rate volatility, capital flows and interest rate.

Conclusions & Recommendations:

The study results confirm that exchange rate volatility is co-integrated with exports, imports and gross domestic product. Our findings indicate that the exchange rate volatility has significant negative impact on exports both in the short-run and long-run, implying that higher exchange rate fluctuation tends to reduce exports and GDP on the one hand and increase in imports in India on the other hand.

The empirical evidence analyzed in other study suggests that an increase of one percentage point on exchange rate volatility depresses real exports from developing countries by about 2 per cent. Therefore, the present study recommends that the RBI should pursue sustainable and stable exchange rate policy measures to promote greater exchange rate stability that would help to enhance the exports and GDP growth rate of the economy.

Moreover, the study strongly recommends that RBI intervention should be needed to take control over depreciation of rupee in the short-run that adversely affects the exports. Further, the study insists on the need for a foreign trade policy that is in tune with the changed realities of the world economic activity in the short-run due to the alarming global economic crisis.

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