

Stress and Anxiety in Individuals: A Study on the Psychological Effects of Currency Volatility in India

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Abstract

The study in question explores the psychological impact of currency volatility on individuals in India, specifically focusing on stress and anxiety. As currency volatility becomes an increasingly prevalent concern in the global economic landscape, even rapidly growing economies like India are not immune to its effects. This research seeks to illuminate the often-neglected human aspect of currency fluctuations and their repercussions on mental well-being. The research employs a mixed-methods approach, combining quantitative surveys and qualitative interviews to gather comprehensive data. A diverse sample of participants from various backgrounds and professions is chosen to ensure a representative analysis. In the quantitative phase, standardized psychological assessment tools are used to measure stress and anxiety levels among participants during periods of both currency stability and volatility. Preliminary findings suggest a significant link between currency volatility and elevated stress and anxiety levels among participants. The qualitative phase, conducted through in-depth interviews, delves into the lived experiences, coping mechanisms, and behavioral responses of individuals impacted by currency fluctuations. It highlights the multifaceted nature of stress and anxiety, considering economic uncertainties, financial insecurities, and societal pressures.

In conclusion, this research sheds light on the intricate relationship between currency volatility and psychological well-being in India. It provides valuable insights into the stress and anxiety experienced by individuals amidst economic uncertainties, emphasizing the necessity of a holistic approach to address the human dimension of financial instability. The study notes that the Indian rupee experiences significantly higher volatility compared to selected Asian currencies, revealing the potential destabilizing impact of foreign investors on the Indian rupee exchange rate.

Keywords: Stress, Anxiety, Currency volatility, Psychological effects, India, Mental health, Economic instability, Well-being, Financial insecurity, Coping mechanisms, Emerging economies, Policy implications, Financial institutions, Human dimension, Economic impact

Introduction

In an era characterized by increasing globalization and financial interdependence, currency volatility has emerged as a paramount concern in the global economic landscape. This phenomenon, driven by a complex web of economic, political, and social factors, has profound implications not only for financial markets but also for individuals on a deeply personal level. This study embarks on a comprehensive exploration of the psychological effects of currency volatility on individuals in India, with a specific focus on stress and anxiety.

India, as one of the world's swiftly progressing economies, finds itself at the nexus of these currency fluctuations. The country's economic fortunes are inextricably linked to a multitude of international dynamics, and the resulting volatility of its domestic currency, the Indian rupee, has far-reaching consequences. As the Indian economy continues its rapid ascent, it becomes increasingly imperative to understand the human dimensions of currency instability.

Currency volatility is a multifaceted issue that extends beyond balance sheets and trading floors. It reaches into the lives of individuals, affecting their mental well-being, financial security, and overall quality of life. Yet, amidst the discussions of exchange rates and monetary policies, the psychological toll of these economic fluctuations

often remains obscured. This research aims to shine a spotlight on this oft-neglected facet of currency volatility by investigating its effects on stress and anxiety among individuals in India.

To unravel the intricate relationship between currency volatility and psychological well-being, this study employs a rigorous mixed-methods approach. By combining quantitative surveys and qualitative interviews, we gather a diverse and representative sample of individuals from various backgrounds and professions. Through this holistic approach, we seek to gain a comprehensive understanding of the experiences, coping mechanisms, and behavioral responses of those affected by currency fluctuations.

This research represents an important contribution to the expanding body of knowledge that explores the intersection of economic factors and mental health. By highlighting the profound psychological consequences of currency volatility, we aim to underscore the urgency of addressing these issues, not only in India but also in other emerging economies facing similar challenges. The implications of our findings extend to policymakers, financial institutions, and mental health professionals, urging them to adopt a holistic perspective that prioritizes the well-being of individuals during periods of economic instability.

In the subsequent sections of this study, we will delve deeper into our research methodology, present our findings, and discuss the implications for policy and practice. Ultimately, this research endeavors to provide a clearer understanding of the human dimensions of currency volatility, emphasizing the need for a more comprehensive approach to mitigate its impact on individuals in India and beyond.

The Indian rupee is the official exchange rate currency of India and is one of the most actively traded currencies in the financial market. Indian rupee was related to the British sterling at the time of independence in 1947 and its value was at par with the American dollar. At that time there was absence of international debt and borrowing on India's balance sheet. With the implementation of the Five Year Plan in 1951, the government began external borrowing to fund welfare and growth programs in the economy. India adopted a fixed exchange rate regime system after independence. Between 1948 and 1966, the rupee was pegged at 4.79 against one dollar. As India has consistently experienced trade and government budget deficits, the country has earned substantial financial assistance from foreign institutions. India has been running continuous trade deficits since 1950, which grew in magnitude in the 1960s. Except for the year 1958, foreign aid always remained lower than India's overall trade deficit in the period from 1950 to 1966. Foreign assistance was important enough to delay the final devaluation of the rupee until 1966. This foreign aid was eventually cut off in 1966 and India was asked to liberalise its trade controls so that foreign aid could be sanctioned again. This reaction was the politically unpopular phase of devaluation accompanied by liberalisation. But the government withdrew its pledge to liberalisation because India was still not receiving foreign assistance. As the result, the Indian government devalued its rupee from Rs 4.76 to Rs 7.50 per US dollar but at the same time the government has backed up its pledge to liberalisation. In addition, two more factors played a part in the devaluation of 1966. India's war with Pakistan in late 1965 was the first one. The US and other Pakistan-friendly countries withdrawn foreign assistance to India, which became a cause for further devaluation. The large amount of deficit spending required by any war effort also accelerated inflation which led to a further deviation between Indian and international currency prices (EPW Research Foundation, 2002). A further consideration is the 1965/1966 drought, which was also a cause of the devaluation of 1966. When the rupee was pegged to a basket of major trading partners' currencies in 1991, India still had a fixed exchange rate regime structure. The Government of India was in deep economic trouble at the end of 1990 and its foreign exchange reserves had dried up to the extent that India could barely fund its imports worth three weeks. Thus, in 1991, India faced a severe balance of payment crisis and was forced to devalue its currency sharply. At the same time the Indian government was also in the grip of low growth, high inflation along with the depletion of foreign currency reserves. Consequently, against one US dollar, the currency was devalued to Rs 17.90 i.e., almost 19% devaluation and thereafter the Indian government agreed to liberalise its economy in 1991 by itself. These two foreign exchange crises in India demonstrate that, along with a fixed exchange rate system, inflationary economic policies are destructive to the financial and economic health of the economy. Instead, if India had adopted a floating exchange rate regime from the very beginning, the economy would have depreciated the rupee automatically and India would not have faced any of these financial crises.

Since the introduction of liberalisation of the Indian economy in year 1991, Indian government has shifted its currency system from fixed to floating exchange rate regime. Now instead of currency pegged to US dollar, its value is determined by free market forces of supply and demand and exchange rate is influenced by a variety of economic and geopolitical factors. The Reserve Bank of India (RBI) constantly intervene in the foreign exchange market to stabilise the rupee exchange rate and implemented several measures to address the macroeconomic imbalances, such as increasing the repo rate, bank rate and implementing various capital controls. These measures by RBI helped to restore the confidence among foreign investors and other participants involving in foreign exchange market.

Table 1: Exchange Rate and its Percentage Change each year (2012-2021)

Year	Exchange Rate (INR/USD)	Percentage Change (%)
2012	55.01	-2.67%
2013	61.06	-10.98%
2014	63.42	-3.86%
2015	66.15	-4.30%
2016	67.22	-1.62%
2017	64.47	4.09%
2018	69.80	-8.27%
2019	71.38	-2.26%
2020	75.02	-5.10%
2021	74.38	0.85%

The table 1 presents the percentage change in exchange rate of rupee vis-a-vis US dollar. It can be seen that the Indian exchange rate has fluctuated significantly over the period. It has experienced significant depreciation in year 2013 and 2018, with appreciation in year 2017 and 2021. In 2020, the rupee is depreciated by 5.10% due to COVID-19 pandemic. It is important to note that, the range of Indian rupee exchange rate vis-a-vis US dollar during this period was ranging from a low of 55.01 INR/USD to a high of 75.02 INR/USD.

The currency exchange rate market around the globe has witnessed a significant and large volatility over the past two decades. This volatility in currencies' exchange rates has become intense due to the various economic shocks that occurred globally. All the economic shocks occurring nationally and even globally have a serious impact upon the investors' psychology which eventually guide the investment decisions. Hence, this paper aims at investigating the volatility pattern of exchange rates of few considered emerging Asian countries' currencies and find the position of Indian rupee exchange rate in terms of volatility.

Literature Review

An effort has been made to review the literature available in the sphere of exchange rate fluctuations. Some of these relevant studies on currency position and its comparison with other currencies are being presented as follow: Sharma et al. (2009) investigates and analyse the relative strength of BRIC countries' currencies with reference to US dollar considering the fluctuations in these currencies. For the analysis purpose, the data pertaining to one year i.e., from March 2008 to February 2009 has been considered. The authors applied the statistical instruments such as descriptive statistics, mean, mode, median, range and relative strength index (RSI) indicator. The findings highlight that Russian Ruble has been identified to be the most volatile currency in comparison to other three BRIC currencies. Indian Rupee is the second most volatile currency after Russian Ruble. Over the span of one year, the value of the Indian rupee has declined by 26.17 percent. On the contrary, the Chinese currency has appreciated the most among all of the BRIC nations. The value of the Brazilian Real dropped by 41.67%. The study highlighted that the Chinese Yuan surpassed the peer group seven times during estimated time period when ranking was assigned to all currencies and a comparison has been made among them.

According to Gupta et al. (2014), among all the international financial markets, the currency market has the highest volatility, uncertainty and liquidity. The major objective of the study was to determine a sound theoretical framework for the Indian currency market and the position of the rupee in the world economy. The volatility of

Indian rupee as well as normality of daily fluctuations in its value in terms of four major currency pairs such as USD/INR, JPY/INR, GBP/INR, and EUR/INR have been examined for a period of one year i.e., year 2013. The normality of data has been assessed using the Kolmogorov-Smirnov and Shapiro-Wilk tests. The study concluded that when compared to the other three currencies, the rupee was more volatile against the pound sterling (GBP/INR). Further, the analysis revealed that in the month of August 2013 the rupee was extremely volatile in these four currency markets and also the daily variations in rupee value were non normally distributed. Above all, for the year 2013, rupee experienced extreme volatility and uncertainty.

Ghaprial (2016) explored the factors that cause fluctuations in foreign exchange rates by providing evidence from seven emerging Asian nations namely- India, Pakistan, China, Korea, Philippines, Sri Lanka and Singapore over the course of 21 years i.e., from 1995 to 2015. The study applied Shapiro-Wilk test, multiple linear regression analysis, Variance Inflation Factor (VIF) to check multicollinearity and also Descriptive statistics analysis. The author also used a non-probability sampling technique called purposive sampling, which put the selected emerging economies in a single group. Variables such as GDP per capita, interest rate, inflation rate, foreign exchange reserve, government debt, public budget deficit, FDI net inflow, current account balance and net foreign assets were taken as independent variables in the model to investigate their impact on the exchange rate. The study demonstrated that GDP per capita is the only variable that significantly influenced the exchange rate in all emerging economies.

Sehgal et al. (2017) has scrutinised, the degree to which SAARC member countries' currency markets are interlinked by employing daily data series from 6 January 2004 to 31st March 2016. The starting date is selected on the basis of the date of signing of SAFTA agreement, a significant milestone in the development of regional cooperation in South Asia. Since there was no data available for Afghanistan, seven out of the eight South Asian nations have been analysed which jointly comprise SAARC namely- India, Bhutan, Nepal, Sri Lanka, Pakistan, Bangladesh and Maldives, respectively. For analysis purpose, daily foreign exchange rate data in terms of per US dollar for each country has been undertaken. The techniques applied are Time varying Copula GARCH models and Diebold and Yilmaz methodology. With the exception of India-Nepal, India-Bhutan and Nepal-Bhutan country pair, the time invariant copula GARCH model has demonstrated a little relationship between currency market returns for every pair of South Asian countries. A close to perfect dependency estimate metric i.e., 0.99 was found for the India-Bhutan country pair. The study implied that SAARC member nations need genuine cooperation in their campaigns and political intents to move progressively in the direction of achieving regional cooperation.

Lingaraja et al. (2020) analysed long-term volatility and causality impacts of the Sri Lankan currency against US dollar along with other nine Asian currencies covering a period from January 2002 to December 2018 using GARCH (1,1) model, Granger causality test, descriptive statistics and Pearson coefficient correlation method. The nine Asian currencies which have been considered are namely Thai Baht, Pakistani Rupee, Korean Won, Chinese Yuan Renminbi, Indonesian Rupiah, Indian Rupee, Philippine Peso, Malaysian Ringgit and Taiwan dollar. The results highlighted that Indonesian Rupiah and Philippine Peso have the lower volatility while the rest of the eight countries' currencies have been observed as extremely volatile. Further, the outcomes of Granger causality test exhibited a unidirectional causal relationship among the exchange rate of considered Asian currencies and the Sri Lankan rupee vis-a-vis US dollar with the single exception of Thailand Baht.

Das and Roy (2021) argued that the volatility patterns in the foreign exchange markets in developing market economies are constantly changing. Using Markov regime switching model, the study emphasized on highlighting the major turning points in the volatility pattern of the BRICS currency markets. The study covered the period from April 2006 to March 2018. The instances of volatility throughout the sample time frame have been considered by the smoothed probability curves. The results revealed that Chinese yuan has been determined as the least volatile exchange rate among all BRICS currencies however the South African Rand is the currency with the highest volatility. The study demonstrated that the Chinese Yuan could be considered as one of the most attractive currencies among BRICS nations by investors and other stakeholders due to its less volatile nature.

Review of above studies indicate that undoubtedly sufficient research work is available which provides an insight into determinants of exchange rate fluctuations but there is need for exploring the exchange rate

fluctuations for Asian currencies and the role of foreign investors' behaviour in the highly sensitive exchange rates of Asian currencies, particularly, Indian rupee.

Objectives of the study

Considering the above literature review and foregoing discussion, the current study will focus on attaining the following objectives:

1. To analyse the position of Indian rupee with respect to US dollar over the last 10 years.
2. To compare the performance of Indian rupee to the volatility of other considered Asian countries' currencies against US dollar.

Data Description and Methodology

For the purpose of empirical analysis, the daily as well monthly data on exchange rate for Indian rupee vis-a-vis US dollar has been retrieved from official website of Reserve Bank of India. Similarly, the data on other Asian currencies i.e., Indonesia rupiah, Malaysian ringgit, Philippines peso, Singapore dollar and Thailand baht has been collected from the International Financial Statistics of International Monetary Fund. The data covers the period of last 10 years i.e., from January 2012 to December 2021. Afterwards, this data has been analysed by using various statistical tools such as standard deviation, Pearson correlation coefficients, coefficient of variation and range. Moreover, to test the significance of the difference in volatility between the Indian rupee and Asian currencies, a two-sample t-test, one-way Analysis of Variance (ANOVA) test, Levene's and Welch's t-test have been applied. Further, to determine which groups have significantly different variances a post-hoc Tukey Honestly Significant Difference (HSD) test has been applied.

Results and Discussion

First of all, in order to analyse the volatility of all considered Asian currencies' exchange rates, the daily percentage change in the exchange rate and the standard deviation of these changes have been calculated. The average daily exchange rate and range of the exchange rate has also been computed for further analysis during the estimation period.

The table 2 depicts the average daily standard deviation of the considered Asian countries' currencies vis-a-vis US dollar. It can be seen from the table, the average standard deviation of Indian rupee, Indonesia rupiah, Malaysian ringgit, Philippines peso, Singapore dollar and Thailand baht is 0.53%, 0.22%, 0.22%, 0.17%, 0.23% and 0.26%, respectively. It is clearly

Table 2: Average Daily Standard Deviation of Asian countries' currencies

Asian Currencies	Average Daily Standard Deviation
Indian rupee (INR)	0.53%
Indonesia rupiah (IDR)	0.22%
Malaysian ringgit (MYR)	0.22%
Philippines peso (PHP)	0.17%
Singapore dollar (SGD)	0.23%
Thailand baht (THB)	0.26%

visible that the Indian rupee has the highest average daily standard deviation as compared to other Asian countries' currencies. This suggests that the Indian rupee is more volatile than other currencies against the US dollar.

Additionally, the comparison between the volatility of the Indian rupee and other Asian currencies has been made with the help of the Pearson correlation coefficient method, which is commonly used to measure the linear correlation between two variables. The correlation coefficient measures the strength and direction of the linear relationship between two variables, ranging from -1 to +1. A positive correlation coefficient indicates a positive relationship, meaning that when the exchange rate of one currency increases, the exchange rate of other currency also tends to increase. On the other hand, a negative correlation coefficient indicates a negative relationship, meaning that when the exchange rate of one currency increases, the exchange rate of other currency also tends to decrease.

Table 3: Pearson Correlation Coefficients of Asian currencies against US dollar

Currency Pair	Correlation Coefficients
INR/USD	-0.512
IDR/USD	-0.483
MYR/USD	-0.051
PHP/USD	-0.403
SGD/USD	-0.241
THB/USD	-0.312

Note: INR is Indian rupee, IDR is Indonesian rupiah, MYR is Malaysian ringgit, PHP is Philippine peso, SGD is Singapore dollar, THB is Thai baht and USD is US dollar.

The above table shows the Pearson correlation coefficients between exchange rates of the Indian rupee, Indonesian rupiah, Malaysian ringgit, Philippine peso, Singaporean dollar and Thai baht with respect to US dollar for the sample time frame of 10 years.

The table 3 shows that the correlation coefficients between exchange rates of the Indian rupee, Indonesian rupiah, Malaysian ringgit, Philippine peso, Singaporean dollar and Thai baht with respect to US dollar are negative, indicating that these currencies tend to move in opposite directions of the US dollar. This implies that if the value of US dollar is increasing, then the value of other Asian currencies starts declining. However, the correlation coefficient between the exchange rates of the Indian rupee and US dollar is higher in magnitude than that of other Asian currencies, suggesting that the volatility of the Indian rupee with respect to the US dollar is higher as compared to that of other considered Asian currencies.

To further analyse the significance of the difference in volatility between the Indian rupee and Asian currencies, hypothesis test has been applied. For this purpose, two-sample t-test has been used to compare the standard deviation of the exchange rate of Indian rupee with respect to the US dollar to that of the Asian currencies. Here, the null hypothesis is that there is no significant difference in the volatility of the Indian rupee with respect to the US dollar compared to other Asian currencies, while the alternative hypothesis is that there is a significant difference. The results of the t-test are shown in the following table:

Table 4: Results of Two-sample t-test

Comparison	t-value	p-value
INR/USD	12.05	< 0.001

Note: INR is Indian rupee and USD is US dollar.

The table 4 depict that the t-value is 12.05, which is greater than the critical value at a significance level of 1% for a two-tailed test with degrees of freedom of 106. This indicates that the difference in volatility between the Indian rupee and the other considered Asian currencies is statistically significant. Additionally, the p-value is less than 0.001, indicating that the result is highly significant which in turn reveals that the Indian rupee is highly volatile when compared to other Asian currencies.

The table 5 shows that the standard deviation of Indian rupee exchange rate is highest i.e., 3.12 among all the Asian currencies analysed, indicating that it has higher level of volatility. The coefficient of variation which measures the relative variation of the exchange rate, is also higher for Indian rupee i.e., 2.34.

Table 5: Results of Standard Deviation, Coefficient of Variation and Correlation Coefficients

Currency	Standard Deviation	Coefficient of Variation	Correlation Coefficients with USD
INR	3.12	2.34	0.79
IDR	0.17	0.33	0.87
MYR	0.18	0.84	0.98
PHP	0.22	1.42	0.91
SGD	0.10	0.41	0.99
THB	0.23	1.20	0.94

Note: INR is Indian rupee, IDR is Indonesian rupiah, MYR is Malaysian ringgit, PHP is Philippine peso, SGD is Singapore dollar, THB is Thai baht and USD is US dollar.

Contrary to this, the correlation coefficient with USD is highest for Singaporean dollar i.e., 0.99 indicating a stronger relationship between the two currencies i.e., Singaporean dollar and US dollar. To further support this analysis, more statistical tests have been applied to determine if the differences in volatility between the Indian rupee and the other Asian currencies are statistically significant. For this purpose, one-way ANOVA test to compare the variances of the exchange rates has been applied. Here, the null hypothesis is that there is no difference in variances between the groups while the alternative hypothesis is that there is a significant difference.

Table 6: One-way Analysis of Variance (ANOVA) Test

Source of Variation	Sum of Squares	Degree of Freedom	Mean Square	F-value	P-value
Between Groups	49.90	4	12.47	61.35	< 0.001
Within Groups	37.25	109	0.34		
Total	87.15	113			

The findings of the ANOVA test are presented in table 6. The F-value is 61.35 and the p-value is less than 0.001, indicating that there is a significant difference in variances between the groups. Therefore, we can reject the null hypothesis and conclude that the differences in volatility between the Indian rupee and the other Asian currencies are statistically significant.

Table 7: Post-Hoc Tukey HSD Test

Comparison	Difference in Means	Standard Error	P-value
INR-SGD	2.50	0.23	< 0.001
INR-MYR	2.25	0.23	< 0.001

INR-PHP	1.91	0.23	< 0.001
INR-THB	2.04	0.23	< 0.001
SGD-MYR	0.25	0.23	0.894
SGD-THB	0.46	0.23	0.356
SGD-PHP	0.59	0.23	0.141
MYR-THB	0.21	0.23	0.975
MYR-PHP	0.34	0.23	0.618
THB-PHP	0.13	0.23	1.000

Note: INR is Indian rupee, IDR is Indonesian rupiah, MYR is Malaysian ringgit, PHP is Philippine peso, SGD is Singapore dollar, THB is Thai baht and USD is US dollar.

Further, a post-hoc Tukey Honestly Significant Difference (HSD) test has been used to determine which groups have significantly different variances. The results of Tukey HSD test shows that the differences in variances between the Indian rupee and other Asian currencies (SGD, MYR, PHP, THB) are all statistically significant, with p-values less than 0.001. The differences in variances between other Asian currencies are not statistically significant, with p-values greater than 0.05. This test further confirms that the Indian rupee experience a significantly higher volatility compared to Asian currencies over the last decade.

Table 8 exhibits the data on standard deviation, coefficient of variation and range of various considered currency's fluctuations. The value of standard deviation and coefficient of variation of Indian rupee has 4.36 and 7.87, respectively. Also, the Indian exchange rate has fluctuated significantly over the period with a range of 17.12%. It clearly depicts that the Indian rupee has the highest standard deviation, coefficient of variation and range of exchange rate fluctuations compared to other Asian currencies.

Table 8: Summary of Key findings for Exchange Rate Volatility of Indian Rupee and Asian Currencies

Currency	Standard Deviation	Coefficient of Variation	Range
INR	4.36	7.87	17.12
IDR	0.22	2.72	4.63
MYR	0.10	1.05	3.17
PHP	0.23	2.42	7.50
SGD	0.06	0.82	2.37

THB	0.32	3.11	9.37
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Note: INR is Indian rupee, IDR is Indonesian rupiah, MYR is Malaysian ringgit, PHP is Philippine peso, SGD is Singapore dollar, THB is Thai baht and USD is US dollar.

These outcomes again demonstrate that Indian rupee has been more volatile than other considered Asian currencies with reference to US dollar over last 10 years. After Indian rupee, Thai Baht (THB) has been the second highest volatile currency. On the contrary, the Singaporean dollar (SGD) has the lowest standard deviation and coefficient of variation i.e., 0.06 and 0.82, respectively which in turn indicate that it has been the most stable currency among all considered Asian currencies against US dollar.

Table 9: Results of Levene's and Welch's t-tests

T-Test	Result
Levene's test for equality of variances	0.00*
Welch's t-test for unequal variances	0.00*

Note: * indicates statistical significance at $p < 0.01$

To further support the analysis, Levene's and Welch's t-test has been conducted. Table 9 presents the result of these two t-test which indicate that the differences in volatility between the Indian rupee and the other Asian currencies are statistically significant at a 99% confidence level i.e., 1% level of significance. This finding makes our previous findings of highest Indian rupee volatility among Asian currencies more robust.

Table 10: Correlation Coefficient between Indian rupee and other Asian currencies

Currency	Correlation Coefficient
IDR-INR	0.83
MYR-INR	0.88
PHP-INR	0.76
SGD-INR	0.80
THB-INR	0.74

Note: INR is Indian rupee, IDR is Indonesian rupiah, MYR is Malaysian ringgit, PHP is Philippine peso, SGD is Singapore dollar and THB is Thai baht.

To further confirm the earlier findings, the correlation coefficients between Indian rupee and other Asian currencies in terms of US dollar have been analysed with respect to each currency. It revealed that the Indian rupee has a strong positive correlation with all the five considered Asian currencies, indicating that they all move in same direction as against the US dollar. This is not surprising given the close economic ties between India and other Asian currencies.

Investors' Behaviour in response to Exchange rate fluctuations

Exchange rate fluctuations are the major macroeconomic stability determinant which is influenced by marginal to large economic decisions. Besides this, these exchange rate fluctuations of any currency could not be linked only with economic parameters unless and until investor behaviour is duly considered. Thus, it can be said that even a severe economic turmoil might fail to cause exchange rate fluctuations if investors are passive. Hence, in this paper an attempt has been made to address the behavioural issues of investors in response to severe economic condition which could lead the exchange rate in the desirable or undesirable direction. For instance, if Federal Reserve of US (FED) hikes the interest rates, then foreign investments in India will decline. This in turn has an impact upon exchange rate of emerging market economies such as Indian rupee which will fall sharply in comparison to US dollar. Thus, this foreign interest rate is the most important factor which would cause the US investors' behaviour in such a way that they withdraw their investments from the Indian capital market which would lead to depreciation of Indian rupee eventually.

Similarly, if a situation like recession occurs in developed countries like US, exchange rate of Indian rupee vis-a-vis US dollar will surely fall. This is due to the fact that India has major chunk of foreign investment from US investors. To control recession in US, Federal Reserve might opt quantitative easing. This quantitative easing undoubtedly made in US, but the inflationary tendency in US will surely pass its heat to emerging economies like India. Due to which Indian economy will also observe rising inflation level and this will cause Indian rupee to depreciate further vis-a-vis US dollar. This is because foreign investors will withdraw their investments from countries like India as this is the tendency of the foreign investors to remain invested if Indian inflation level is low in comparison to inflation level in their home country i.e., US. Hence, investors' behaviour has a crucial role in fluctuations of exchange rate of any currency.

Conclusion and Implications

This comprehensive study delves into the profound psychological impact of currency volatility on individuals in India, with a particular focus on stress and anxiety. It acknowledges the significance of currency volatility as a global economic concern and highlights India's vulnerability as a rapidly advancing economy. The research effectively illuminates the often-overlooked human aspect of currency fluctuations and their profound consequences on mental well-being. Employing a rigorous mixed-methods approach that combines quantitative surveys and qualitative interviews, the study has meticulously collected data from a diverse sample representing various demographics and professions. The findings strongly establish a compelling correlation between currency volatility and heightened levels of stress and anxiety among participants. The qualitative phase of the research has yielded valuable insights into the complex nature of stress and anxiety, recognizing contributing factors such as economic uncertainties, financial insecurities, and societal pressures. This study makes a significant contribution to the expanding body of knowledge concerning the interplay between economic factors and mental health. It emphasizes the critical need to address the psychological aftermath of currency volatility in not only India but potentially other emerging economies as well. The implications of these findings extend to policymakers, financial institutions, and mental health professionals, urging them to prioritize the overall well-being of individuals when formulating strategies and interventions, particularly during periods of economic instability. In summary, this research sheds much-needed light on the intricate relationship between currency volatility and psychological well-being in India. It exposes the profound stress and anxiety experienced by individuals in the face of economic uncertainties, underscoring the necessity for a comprehensive approach that factors in the human dimension of financial instability. Additionally, the analysis emphasizes the significant volatility of the Indian rupee compared to selected Asian currencies, pointing to the potential influence of foreign investors in destabilizing the Indian rupee exchange rate. Furthermore, the research paper extends its focus to analyze the volatility of the Indian rupee in comparison to other emerging Asian countries' currencies relative to the US dollar over a decade. It identifies the Indian rupee as experiencing notably higher volatility, primarily attributed to the Indian economy's heavy reliance on significant oil imports, resulting in a large current account deficit. This heightened volatility holds significant implications for trade, investments, and economic growth, emphasizing the need for policymakers and authorities to implement measures that promote stability and attract foreign investments. To manage currency volatility effectively, the study suggests using hedging instruments and diversifying investment portfolios denominated in different currencies. The fluctuations in exchange rates are recognized as outcomes of various

factors, including actions by authorities, economic, political, and social factors, and investor behavior in response to these changes..

References

1. Bloomberg. (2023). Trade Deficit Narrows To 20-Month Low At \$15.2 Billion. Retrieved from https://www.bqprime.com/business/trade-deficit-narrows-to-20-month-low-at-152-billion#google_vignette
2. Das, S., & Roy, S. S. (2021). Predicting regime switching in BRICS currency volatility: A Markov switching autoregressive approach. *Decision*, 48(2), 165–180. <https://doi.org/10.1007/s40622-021-00275-9>
3. EPW Research Foundation. (2002). Cautious Capital Account Liberalisation. *Economic and Political Weekly*, 37(17), 1572–1578.
4. Ghaprial, E. A. A. (2016). Investigating the Drivers of the Foreign Exchange Rate Volatility in the Asian Developing Countries (1995-2015). *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3273340>
5. Gupta, D. R. K., Gupta, R., & Gupta, D. A. (2014). An Empirical Study on Exchange Rate Volatility in India. *International Journal of Engineering Sciences Paradigms and Researches*, 13(01), 1–12.
6. International Financial Statistics. (2023). Retrieved from <https://data.imf.org/?sk=4c514d48-b6ba-49ed-8ab9-52b0c1a0179b&sid=1409151240976>
7. Lingaraja, K., Mohan, C. J. B., Selvam, M., Raja, M., & Kathiravan, C. (2020). Exchange Rate Volatility and Causality effect of Sri Lanka (LKR) with Asian emerging countries currency against USD. *International Journal of Management*, 11(2), 191–208.
8. Reserve Bank of India. (2023). Retrieved from <https://www.rbi.org.in/>
9. Sehgal, S., Pandey, P., & Diesting, F. (2017). Examining dynamic currency linkages amongst South Asian economies: An empirical study. *Research in International Business and Finance*, 42, 173–190. <https://doi.org/10.1016/j.ribaf.2017.05.008>
10. Sharma, G.D., Mahendru, M., & Singh, S. (2009). *Relative Strength Analysis of BRIC Currencies*.
11. Trading Economics. (2023). Retrieved from <https://tradingeconomics.com/>