Exchange Rate Volatility And Its Impact On The Financial Performance Of Non-Financial Indian Firms: An Empirical Analysis

Dr.Biswo Ranjan Mishra
Assistant Professor, Department of Commerce, Utkal University (CDOE), Bhubaneswar, Odisha.

Baisil A
Assistant Professor, Department of Economics, Government College Kottayam, Kerala

Dr.R.Ramachandran
Assistant Professor of Economics, Sona College of Arts and science Salem, Tamil Nadu India.

Dr Shankar R
Researcher in Commerce, Bharathiar University, Coimbatore.

Dr.Devkanya Gupta
Assistant Professor, School of Management and Commerce, K.R.Mangalam University, Gurugram.

Dr.R.Banila
Assistant Professor, S.I.V.E.T College, Gowrivakkam, Chennai.

Abstract
This study examines the impact of exchange rate volatility on the financial performance of non-financial Indian firms through a structured empirical analysis. Drawing from a sample of 150 firms listed in Indian stock indices, the study distinguishes between export-oriented and domestically focused companies to assess differential exposure to currency fluctuations. Utilizing secondary data over a five-year period (2019–2024), the study employs correlation analysis, multiple regression models, and t-tests to evaluate the relationship between exchange rate volatility and financial indicators such as Return on Assets (ROA), Earnings Per Share (EPS), and Net Profit Margin. The results reveal a significant negative association between currency volatility and firm performance, particularly for export-driven firms. Additionally, the study finds that companies employing hedging strategies exhibit greater financial stability during volatile periods, highlighting the importance of financial risk management. The findings emphasize the need for firms to adopt proactive currency risk mitigation measures and for policymakers to encourage greater awareness and accessibility of hedging tools in the Indian corporate sector. This research contributes to the growing literature on exchange rate exposure in emerging markets and offers strategic insights for managers, investors, and regulators navigating a globally integrated economy.

Keywords:
Exchange Rate Volatility, Financial Performance, Non-Financial Firms, Hedging Strategies, Indian Economy

Introduction

The phenomenon of exchange rate volatility has garnered significant attention in recent years due to its profound implications on the financial stability and performance of firms operating in globally integrated economies. In the context of India, where economic liberalization has led to an increased participation of domestic firms in international trade and investment, the impact of fluctuating currency values has become more pronounced, especially for non-financial firms that lack natural hedging mechanisms available to financial institutions. The dynamic nature of exchange rate movements, influenced by macroeconomic fundamentals, policy shifts, and geopolitical uncertainties, introduces a layer of unpredictability that challenges managerial decision-making and strategic financial planning. Prior studies such as those by Shankar, Sangeetha, and Yashwanth (2025) have emphasized the need to explore firm-level exposures to currency volatility, particularly in India where non-financial firms constitute a significant share of the industrial landscape. These firms often operate with limited access to sophisticated financial instruments, making them more vulnerable to the adverse effects of exchange rate shocks.

The relevance of this issue has grown in the post-pandemic global economy marked by heightened market uncertainty, inflationary pressures, and fluctuating foreign investment flows. Several scholars have underlined that exchange rate movements directly affect firm-level cash flows, cost structures, and pricing strategies, thereby influencing profitability and shareholder value (Aggarwal & Harper, 2022; Ghosh & Rajan, 2023). This is particularly evident in sectors that are heavily reliant on imports or exports, where currency depreciation or appreciation can significantly alter competitive dynamics and operational margins. Indian firms operating in such sectors often face operational difficulties stemming from unexpected currency losses or gains, as highlighted by Shankar and Gopal (2021) in their volatility analysis of blue-chip companies in the Nifty 50 index. These firms, while financially robust, are not immune to exchange rate-induced stress, indicating that even large corporations require prudent currency risk management frameworks. Moreover, Udhayakumar and Shankar (2010) earlier demonstrated the macro-level economic consequences of foreign portfolio investments and exchange rate movements, underscoring the interconnectedness between financial markets and real-sector corporate performance.

Despite the increasing literature on exchange rate exposure, there remains a critical gap in empirical analyses focused specifically on non-financial Indian firms, which tend to be overshadowed in studies that primarily focus on banks, IT firms, or multinational corporations. Shankar et al. (2025) offer a timely exploration into this under-researched area by studying S&P BSE 200-listed firms, many of which represent core industrial and manufacturing sectors. These firms not only play a pivotal role in the country's economic growth but also often operate with thin margins and high input cost sensitivities, making them ideal subjects for assessing the real effects of currency volatility. While previous research in developed economies has established robust links between exchange rate fluctuations and firm performance (Bartram et al., 2021; Dominguez & Tesar, 2006), emerging markets like India present distinct structural characteristics—such as partial capital account convertibility, varying degrees of exchange rate pass-through, and regulatory interventions—that warrant a contextualized analysis. This study, therefore, addresses a pressing need to understand how Indian non-financial firms are financially impacted by currency fluctuations and what mechanisms, if any, are effective in mitigating such exposure.

Furthermore, the dichotomy between export-oriented and domestically-focused firms offers a unique analytical perspective into the heterogeneous nature of currency risk. Export-driven firms, while benefiting from a depreciating rupee in revenue terms, often grapple with higher input costs and volatility in overseas demand. Conversely, domestic firms may face indirect consequences through input cost inflation or increased competition from imports during currency appreciation. Studies such as those by R. Shankar, Sridhar, and Sivakumar (2021) and R, Shankar, Manimegalai, and Ramya (2017) have laid the groundwork for understanding sector-specific sensitivities to macroeconomic variables, but have not delved deeply into this bifurcation in risk exposure among firm types. By empirically distinguishing these categories, the present research contributes to a nuanced understanding of exchange rate transmission mechanisms in the Indian corporate context. The integration of recent findings and advanced econometric modeling, in line with global standards for empirical corporate finance research, ensures that the study not only fills existing gaps but also offers practical insights for policy makers, financial managers, and institutional investors operating within and outside India's evolving financial ecosystem.

Literature Review and Research Gap
Exchange rate volatility poses significant challenges for firms operating in globally integrated markets, particularly in emerging economies like India. Numerous studies have explored how exchange rate fluctuations affect corporate financial performance, primarily focusing on financial institutions and multinational corporations. Shankar, Sangeetha, and Yashwanth (2025) empirically demonstrated that non-financial Indian firms listed in the S&P BSE 200 are increasingly susceptible to exchange rate movements, especially those lacking robust hedging mechanisms. Earlier, Shankar and Gopal (2021) conducted a volatility analysis of select blue-chip companies, confirming that even large-cap firms are not immune to currency-related shocks. Similarly, Udhayakumar and Shankar (2010) examined foreign portfolio investment trends and highlighted the macroeconomic consequences of exchange rate instability on Indian markets.

While international research (e.g., Bartram et al., 2021; Dominguez & Tesar, 2006) has established a clear link between currency volatility and firm performance metrics such as profitability and ROA, Indian literature has been less exhaustive in addressing firm-level impacts—especially among non-financial, domestic firms. Studies by R. Shankar, Sridhar, and Sivakumar (2021) used machine learning models to predict market movements but lacked a focus on currency risk exposure and mitigation strategies.

Research Gap
Despite the growing literature, two critical gaps remain. First, there is limited empirical investigation into how exchange rate volatility specifically affects the financial performance indicators of non-financial Indian firms over time. Second, few studies differentiate between the effects on export-oriented and domestically-focused firms, which face distinct currency exposure profiles. Furthermore, the effectiveness of currency risk management strategies in the Indian non-financial sector remains underexplored. This study seeks to bridge these gaps by providing a comparative, data-driven analysis of these firms, offering insights that are both academically significant and practically relevant for managers and policymakers.

Objectives of the study

1.   To examine the relationship between exchange rate volatility and key financial performance indicators (such as profitability, return on assets, and earnings per share) of non-financial Indian firms over a specified time period.

2.   To analyze the differential impact of exchange rate fluctuations on export-oriented versus domestically-focused non-financial firms in India, and assess the extent to which currency risk management strategies mitigate this impact.

Statement of the Problem

Exchange rate volatility has emerged as a critical financial and strategic concern in the modern globalized economy. With India's progressive integration into international trade and investment frameworks, domestic firms—particularly non-financial entities—are increasingly exposed to fluctuations in foreign exchange markets. Unlike financial institutions that may have inbuilt mechanisms to hedge against currency risks, non-financial firms are often ill-equipped to manage this volatility effectively. The impact of such exposure is far-reaching, potentially influencing cost structures, revenue generation, operating margins, and overall profitability. This makes it imperative to investigate how currency fluctuations affect the financial health of these firms and whether there are sectoral differences in how this risk manifests and is managed.

In the Indian context, while considerable research has been conducted on macroeconomic variables and their impact on exchange rates, there is a notable dearth of micro-level analysis focused specifically on how exchange rate volatility influences the financial performance of non-financial firms. This gap is especially significant considering that non-financial firms form the backbone of India's industrial economy—ranging from manufacturing and construction to healthcare, transportation, and infrastructure. Many of these firms engage in international trade either directly through exports/imports or indirectly through global supply chains. However, empirical insights into how these firms' financial outcomes—such as return on assets (ROA), net profit margins, earnings per share (EPS), or cash flow stability—respond to exchange rate changes remain scarce.

The need for this study is further justified by the increased volatility in currency markets post-COVID-19 and during global economic disruptions caused by geopolitical tensions, inflationary pressures, and monetary tightening by developed economies. As firms attempt to recover from these external shocks, understanding the role of exchange rate movements in shaping financial performance becomes crucial for both strategic planning and policy formulation. Moreover, the Indian rupee's performance against major currencies like the US dollar, Euro, and Yen has shown consistent fluctuation over the past decade, necessitating a firm-level inquiry into its implications. Additionally, the study addresses a second layer of complexity—how exchange rate volatility affects different categories of firms differently. Export-oriented firms may benefit from a depreciating currency in revenue terms, yet simultaneously face cost inflation for imported inputs. In contrast, domestically focused firms might be impacted by input cost pressures or competition from foreign goods during currency appreciation. Recognizing these distinct dynamics is essential to design appropriate financial strategies and risk mitigation frameworks.

This study also aligns with contemporary academic and industry interest in financial risk management and international business strategy. By analyzing non-financial firms listed on major Indian stock exchanges, the study contributes robust empirical evidence that can be used by firm

managers, investors, regulators, and policymakers. It also supports the growing need for industry-specific insights into financial risk management practices, particularly in the context of India's move toward greater economic liberalization and global trade engagement.

Research Methodology
1. Target Population
The target population for this study comprises **non-financial Indian firms** listed on major Indian stock indices such as the **S&P BSE 200** and **NIFTY 500**. These firms span across various sectors including manufacturing, pharmaceuticals, IT services (non-financial), textiles, and infrastructure, which are either export-oriented or domestically focused in their operations.

2. Data Collection Method
This study adopts a **secondary data collection approach**, utilizing data from reliable sources including:
- **Financial Statements** (Annual Reports) of selected companies
- **CMIE Prowess Database**
- **Reserve Bank of India (RBI)** exchange rate records
- **Stock Exchange filings (BSE/NSE)**
- **Capitaline/ Bloomberg databases** for financial ratios
- **Company reports on foreign exchange hedging policies**, if available publicly

The data collected covers a **5-year period (2019–2024)** to account for both stable and volatile currency market phases.

3. Sample Size
A total of **150 non-financial firms** are selected as the sample size. These are categorized into:
- **75 export-oriented firms**
- **75 domestically-focused firms**

This categorization is based on revenue disclosures indicating the proportion of income derived from foreign markets versus the domestic market.

4. Sampling Technique
The study employs a **stratified purposive sampling technique**, where firms are deliberately selected based on two strata:
- **Export intensity** (above 30% of total revenue from exports)
- **Domestic focus** (less than 10% export exposure)

This technique ensures balanced representation of firms with differing levels of exchange rate exposure, thus enabling comparative analysis.

Hypotheses
- **H1:** There is a significant negative relationship between exchange rate volatility and financial performance (ROA, EPS, Net Profit Margin) of non-financial Indian firms.
- **H2:** Export-oriented firms experience a significantly higher impact of exchange rate volatility on financial performance compared to domestically-focused firms.

- **H3:** Firms that employ currency risk management strategies (hedging) exhibit better financial stability during periods of high exchange rate volatility than those that do not.

Hypothesis 1

H1: *There is a significant negative relationship between exchange rate volatility and financial performance (ROA, EPS, Net Profit Margin) of non-financial Indian firms.*

Table 1: Pearson Correlation between Exchange Rate Volatility and Financial Performance Indicators (n = 150)

Variable	ROA	EPS	Net Profit Margin
Exchange Rate Volatility	-0.42**	-0.38**	-0.45**

Note: p < 0.01

The results indicate a **moderate negative correlation** between exchange rate volatility and all three financial indicators. Specifically, as exchange rate volatility increases, Return on Assets (ROA), Earnings Per Share (EPS), and Net Profit Margin decline. The relationship is statistically significant at the 1% level, supporting **H1**.

Table 2: Multiple Linear Regression – Impact of Exchange Rate Volatility on Financial Performance (n = 150)

Dependent Variable	Predictor (Exchange Rate Volatility)	β Coefficient	t-value	p-value	R^2
ROA	Exchange Rate Volatility	-0.321	-4.11	0.000	0.26
EPS	Exchange Rate Volatility	-1.128	-3.97	0.000	0.23
Net Profit Margin	Exchange Rate Volatility	-0.272	-4.38	0.000	0.29

Regression analysis shows that **exchange rate volatility significantly and negatively affects financial performance metrics**. For example, every unit increase in volatility decreases EPS by 1.128 units. The R^2 values suggest that 23% to 29% of the variation in financial performance is explained by exchange rate volatility alone. This strongly confirms **H1**.

Hypothesis 2

H2: *Export-oriented firms experience a significantly higher impact of exchange rate volatility on financial performance compared to domestically-focused firms.*

Table 3: Independent Samples t-Test – Comparison of Financial Impact (Volatility vs. ROA) between Export-Oriented and Domestic Firms

Group	Mean ROA	Std. Dev.	t-value	p-value
Export-Oriented	4.12%	1.37%	-3.51	0.001
Domestically-Focused	5.63%	1.22%		

The **mean ROA of export-oriented firms (4.12%) is significantly lower** than that of domestically focused firms (5.63%) under similar exchange rate volatility levels. The t-test confirms this difference is statistically significant (**p < 0.01**), thus supporting **H2**.

Hypothesis 3

H3: *Firms that employ currency risk management strategies (hedging) exhibit better financial stability during periods of high exchange rate volatility than those that do not.*

Table 4: Comparative Financial Performance – Hedged vs. Non-Hedged Firms during High Volatility (n = 150)

Group	Mean Net Profit Margin	Std. Dev.	t-value	p-value
Hedged Firms	7.34%	1.45%	2.89	0.005
Non-Hedged Firms	5.78%	1.63%		

Firms that use **hedging mechanisms** have higher net profit margins (7.34%) compared to non-hedged firms (5.78%) during volatile periods. The difference is statistically significant at the 1% level (**p = 0.005**), confirming **H3**.

Discussion

The empirical analysis conducted on 150 non-financial Indian firms clearly demonstrates that **exchange rate volatility has a negative and statistically significant impact** on core financial performance metrics such as ROA, EPS, and net profit margin. This supports the notion that currency fluctuations introduce cost unpredictability, which adversely affects profitability, especially among firms with international exposure.

The comparative analysis between **export-oriented and domestically focused firms** reveals that export-oriented firms are more sensitive to exchange rate changes. Their reliance on foreign earnings and imported raw materials subjects them to dual exchange rate risks—on revenue inflows and cost outflows. This underscores the need for tailored risk mitigation frameworks for export-driven sectors.

Moreover, the findings validate the effectiveness of **hedging strategies**. Firms employing forward contracts, currency swaps, or natural hedges showed superior financial performance during volatile periods, suggesting that **active currency risk management significantly cushions firms** against exchange rate shocks.

Together, these insights not only confirm the three hypotheses but also provide valuable implications for financial managers, policymakers, and investors. From a policy perspective, the results highlight the necessity of encouraging greater financial literacy and hedging adoption among Indian non-financial firms. For corporate decision-makers, it reinforces the importance of incorporating exchange rate scenarios into financial planning and budgeting exercises.

Conclusion

This study investigated the impact of exchange rate volatility on the financial performance of non-financial Indian firms through an empirical analysis of 150 companies categorized into export-oriented and domestically focused groups. The findings clearly indicate that exchange rate fluctuations significantly and negatively affect key financial indicators such as Return on Assets (ROA), Earnings Per Share (EPS), and Net Profit Margin. The results affirm that as currency volatility increases, the financial stability and profitability of firms tend to decline. This impact is more pronounced in export-oriented firms, which are more directly exposed to foreign exchange risks due to their dependence on international markets for both revenue and inputs.

Additionally, the study revealed that firms employing hedging strategies performed significantly better than those without such mechanisms during periods of high currency volatility. This reinforces the value of proactive financial risk management in mitigating the adverse effects of

exchange rate movements. The comparative analysis further highlights that the effects of volatility are not uniform across firms, with export-oriented firms being more vulnerable compared to their domestic counterparts.

In essence, the study underscores the importance of monitoring currency trends and integrating exchange rate risk into financial planning processes. For policymakers, these insights suggest a need to promote awareness and accessibility of hedging tools among Indian firms. For corporate managers, the results highlight the critical role of strategic financial practices in sustaining profitability amidst a volatile currency environment. Overall, this research contributes to a nuanced understanding of exchange rate risk in emerging economies and provides practical implications for financial decision-making.

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