


# Chapter 11


## Impact of Currency Exchange Rate Fluctuations on Financial Performance and Export Strategies: Pharmaceutical Firms in the Context of Industry 5.0

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### ABSTRACT

*This research explores the impact of currency exchange rate fluctuations on the financial performance and export operations of Indian pharmaceutical companies. It examines how these fluctuations affect revenue, profitability, and other factors like market conditions and company-specific aspects. Using quantitative methods, data from annual reports, online financial databases, and economic indices like GDP, inflation, and industry growth were analyzed. Pearson's correlation, regression, and ANOVA tests revealed that exchange rates significantly affect financial outcomes and export earnings, with varying impacts across companies. Insights from the study are valuable for stakeholders and policymakers to understand the financial implications of currency fluctuations.*

### INTRODUCTION

In the context of Industry 5.0, which emphasizes the integration of advanced technologies, human-centric approaches, and sustainability principles, the pharmaceutical industry plays a critical role in fostering global health and economic stability. Industry 5.0 also encourages the adoption of circular economy

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principles and life cycle assessment (LCA) frameworks to enhance resource efficiency and minimize environmental impact. For pharmaceutical companies heavily reliant on international trade, currency exchange rate fluctuations significantly influence their financial performance and export operations.

This paper examines the relationship between currency exchange rates and export earnings of leading Indian pharmaceutical companies, including Sun Pharmaceutical Industries Ltd, Dr. Reddy's Laboratories Ltd, Cipla Ltd, Lupin Limited, Aurobindo Pharma Limited, Zydus Life Sciences, Torrent Pharmaceuticals Ltd, Biocon Limited, Glenmark Pharmaceuticals Ltd, and Divi's Laboratories Limited. Through statistical analyses using correlation and regression models, the study evaluates how exchange rate variability impacts the profitability of these companies.

The insights gained from this research provide a comprehensive understanding of currency volatility and its implications for financial risk management. By exploring strategies to mitigate exchange rate risks, the study aims to empower pharmaceutical firms to enhance their competitiveness and financial stability in a dynamic global economic environment. Furthermore, the findings contribute to the broader discussion on sustainable business practices within Industry 5.0, offering valuable recommendations for industry practitioners and policymakers to strengthen currency risk management and support long-term economic resilience.

## LITERATURE REVIEW

The impact of currency exchange rate variability on the financial performance and export operations of firms has been a widely investigated theme within which many scholars have gone ahead to explore various dimensions of this complex relationship (Akdoğan, Bağır, & Torun, 2023) the heterogeneous effects of exchange rates on exports of firms underlining that labour intensive firms turn out to be very sensitive to exchange rate fluctuations. This agrees with the findings by (Dinçer, Shingal, & Tekin Koru, 2022) in which authors reveal the intensive margin effects of exchange rate volatility on Turkish firms' authors unveil how changes in currency can contribute to huge variations in export volume particularly to firms that expose greatly to international markets. (Salomao & Varela, 2022) shed additional light on how the exchange rate exposure affects firm dynamics. In this regard firms with higher exchange rate exposure are more likely to suffer a structural change in export activities sometimes improving and sometimes deteriorating their performance based on the appreciation or depreciation of the currency. This notion is supported in the work of (Fiaz, Khurshid, Satti, & Malik, 2021) who analyzed real exchange rate misalignment in Pakistan. As such this misalignment might further contribute to a reduction in firm profitability and hence revenue thus making the financial environment more difficult for firms with export-oriented performance. (Hu, Parsley, & Tan, 2021) examine how firms might respond to such exchange rate-induced pressures through the pathway of export quality upgrading which could mitigate or even deteriorate the financial impact of currency fluctuations. In a similar vein (Chen, Lu, & Tian, 2021) study how firms respond to financial stress and exchange rate movements in export prices and quality and show how the ability to manage this adjustment is important in maintaining financial stability. It also captures the role of currency volatility in shaping financial outcomes. (Sugiharti, Esquivias, & Setyorani, 2020) examined the effects of exchange rate volatility on Indonesia's major exports asserting that such volatility can be a cause of tremendous uncertainty and financial instability for international trading firms. On the other end (Khachatryan & Grigoryan, 2020) analyzed the export growth behaviour of Armenia where they concluded that real exchange rate volatility can lower export performance and result

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