RESEARCH ARTICLE OPEN ACCESS

Currency Risk Management and Firm Performance: An Empirical Study of Tata Consultancy Services (TCS) in the Indian Multinational Context

Chandhini V. Nair*, Abhishek Raychoudhury**, Dr. Patcha Bhujanga Rao***
*Reg. No. 25MCR00007, M.Com (General), School of Commerce, Jain (Deemed-to-be University), Bangalore
**Reg. No. 25MCR00075, M.Com (General), School of Commerce, Jain (Deemed-to-be University), Bangalore
***Professor of Commerce & Management – PG Studies, JAIN (Deemed-to-be University), Bengaluru
Email: prof.pbr@gmail.com

--************************----------------------------------

Abstract:

The aim of this thesis is to examine the currency risks faced by companies and to analyse the risk-management methods and instruments used to mitigate these exposures. Whether a company operates nationally or internationally, currency risk management becomes an essential component of day-to-day business operations. Currency fluctuations can create both opportunities and threats, and organisations adopt a variety of strategies to deal with these risks. As many companies expand their operations across borders to tap into global markets, they are increasingly exposed to risks that were previously unfamiliar particularly currency-related risks. Exchange rate volatility can significantly influence an MNC's monetary performance, competitive positioning, and overall financial sustainability. The findings of this thesis highlight the importance of adopting a proactive and comprehensive approach to currency risk management, enabling MNCs to navigate the complexities of the global economy and maintain a competitive advantage.

Keywords — **Currency Risk, Hedging Strategies, Foreign Exchange Exposure, Financial Performance, ROA, TCS, Multinational Corporations.**

--************************----------------------------------

1. INTRODUCTION

In today's globalized economy, multinational corporations (MNCs) play a pivotal role in driving economic growth, shaping international trade standards, and fostering innovation through exposure to global ideas, technologies, and competitive practices. By expanding their operations across borders, MNCs gain access to larger markets, attract diverse customer segments, and benefit from advantages such as economies of scale, tax optimization, and enhanced after-tax profitability.

However, the internationalization of business also exposes MNCs to a range of challenges that vary depending on their operational nature, size, and geopolitical context. According to the United Nations Conference on Trade and Development (UNCTAD), more than 80,000 MNCs operate globally, engaging in extensive cross-border transactions involving multiple currencies. Such activities inevitably expose firms to exchange-rate fluctuations, giving rise to currency risk, one of the most significant financial risks faced by multinational entities.

Currency risk occurs when changes in the value of one currency relative to another affect a company's financial outcomes. Transaction risk represents the most immediate and tangible form of exposure, as fluctuations can alter the actual value of receipts and payments, thereby influencing cash flows, working capital, and short-term liquidity positions. Translation risk, also known as accounting exposure, affects the valuation of assets, liabilities, and income statements when financial results are consolidated across jurisdictions ultimately influencing investor perception and stock performance. Economic risk, or long-term exposure, examines how sustained currency movements can reshape an MNC's competitive position, long-term financial stability, operational performance, and strategic market posture.

To mitigate the uncertainties arising from exchange-rate volatility, MNCs employ a variety of hedging strategies, both financial and operational. These include forward contracts, currency options, swaps, natural hedging mechanisms, multi-currency bank accounts, and a range of strategic operational adjustments. Effective hedging enables firms to analyse market conditions, forecast currency movements, assess short-term and long-term exposures, and design appropriate response mechanisms.

This paper examines the hedging techniques implemented by MNCs to manage currency risk and evaluates their effectiveness in addressing exchange-rate volatility. It also highlights how the use of appropriate risk-management instruments enhances operational performance and supports sustained competitive advantage in global markets.

2. REVIEW OF LITERATURE

Increasing globalization and the rapid expansion of multinational corporations (MNCs) have increased the importance of financial risk management, particularly concerning fluctuating currency markets. Adler and Dumas (1983) emphasize that currency risk is a fundamental component of international business, directly influencing a firm's cash flow, profitability, and valuation. The nature of currency risks and the reasons for managing them have been widely documented, along with the various strategies firms employ to mitigate exposures.

2.1 Theoretical Framework of Currency Risk

The academic discourse on currency risk is centered on three primary forms of exposure: transaction, translation, and economic exposure a framework first formalized by Eiteman, Stonehill, and Moffett (2016).

Transaction Exposure

Transaction exposure arises from the time lag between contractual agreement and actual settlement in foreign currency. Levi (2005) describes transaction exposure as the most frequently hedged risk due to its direct impact on corporate liquidity, cash flows, and income statements. Even minor fluctuations during this period can lead to significant operational uncertainty.

Translation Exposure

Translation exposure or accounting exposure affects the consolidation of financial statements when converting foreign subsidiaries' accounts into the parent firm's reporting currency. Shapiro (2013) notes that although translation losses may not immediately affect cash flow, they influence investor perceptions, equity valuation, and the firm's financial presentation.

Economic Exposure

Economic exposure, also termed operating exposure, represents the long-term impact of exchange-rate movements on a firm's competitive standing and market value. Jorion (1990) argues that economic exposure is the most complex to manage because it involves strategic decisions such as pricing, sourcing, market entry, and long-term investment. Sustained currency movements can alter the cost structure, demand conditions, and overall profitability of an MNC.

2.2 Hedging Strategies and Instruments

The literature on multinational risk management provides extensive evidence of both external (financial) and internal (operational) techniques to manage currency exposure.

External Hedging Techniques

Most empirical studies focus on financial instruments executed through third-party contracts. Forward contracts remain the most widely used tool for mitigating transaction risk. Allayannis and Weston (2001) demonstrated that firms using derivatives particularly forwards tend to exhibit higher firm valuation. Currency options provide more flexibility, offering protection with the possibility to benefit from favorable exchange-rate movements.

Currency swaps are another long-term hedging mechanism. Stulz (2003) highlights that swaps allow firms to obtain cheaper foreign capital and manage long-term exposure, especially for foreign-denominated debt.

Internal / Operational Hedging Techniques

Many MNCs complement financial instruments with operational strategies that naturally offset currency exposure.

Shapiro (2013) identifies key internal hedging approaches:

Leading and Lagging – adjusting the timing of foreign currency payments/receipts based on expected exchange-rate changes.

Currency Invoicing – denominating transactions in the home currency, thereby shifting the risk to the counterparty (subject to market feasibility).

Netting Systems – consolidating intercompany payables and receivables to reduce the number and cost of foreign-exchange transactions. Eun and Resnick (2012) note that netting can significantly reduce transaction costs and currency volatility impacts.

Diversified Production and Sourcing – relocating or balancing production across geographical regions. Dornbusch (1987) argues that such diversification enables MNCs to adjust operations under long-term exchange-rate movements, thereby reducing economic exposure.

2.3. The Hedging Debate

Despite the availability of hedging strategies, real-world challenges such as taxes, transaction costs, liquidity constraints, and information asymmetry complicate the implementation of risk management policies.

Froot, Scharfstein, and Stein (1993) argue that hedging enhances firm value by ensuring internal cash availability for strategic investments. Smith and Stulz (1985) similarly maintain that hedging reduces financial distress costs and aligns managerial incentives with shareholder interests. Glaum's (2001) study of German firms provides empirical support, suggesting that well-managed hedging policies are characteristic of financially strong and professionally managed MNCs.

3. PROBLEM STATEMENT

In today's globalized business environment, multinational corporations (MNCs) face significant exposure to foreign-exchange (FX) fluctuations arising from their cross-border operations, trade relationships, and financing activities. These fluctuations pose substantial risks to profitability, asset valuations, cash flows, and overall competitive positioning. Although numerous theoretical models emphasize the importance of using both financial and operational hedging techniques to manage such risks, there remains a lack of updated, India-specific empirical evidence on how MNCs actually identify, measure, and manage currency exposure in practice. Indian MNCs are increasingly exposed to volatile global currencies; however, their hedging strategies remain insufficiently researched particularly in terms of the specific types of exposures they manage (transaction, translation, and economic), the instruments they employ (derivatives, natural hedging tools, and internal structural adjustments), and the determinants influencing their hedging decisions (firm size, export–import ratios, foreign-currency debt exposure, regulatory requirements, and operational complexity). Furthermore, there is limited understanding of how closely Indian MNCs' practices align with international standards and how effective these strategies are in mitigating currency-related risks.

4. RESEARCH OBJECTIVES

1. To identify and classify the different types of currency exposures (transaction, translation, economic) faced by Indian multinational corporations (MNCs).
2. To evaluate the financial and operational hedging strategies adopted by Indian MNCs to mitigate foreign-exchange exposure.
3. To examine the firm-specific and external determinants influencing hedging decisions, such as leverage, liquidity, export–import intensity, and regulatory factors.
4. To analyse the extent to which actual hedging practices align with established theoretical models and international best practices.
5. To assess the impact of currency-risk management on firm performance, with specific

reference to profitability indicators such as ROA and ROE.

5. RESEARCH HYPOTHESES

1. **H_1:** There is a significant relationship between foreign-exchange exposure and the hedging activities undertaken by Indian MNCs.
2. **H_2:** Effective currency-risk management has a positive impact on firm profitability, measured through ROA and ROE.
3. **H_3:** Firm-specific factors such as leverage, liquidity, and foreign-currency dependence significantly influence exposure levels.
4. **H_4:** There exists a measurable gap between theoretical currency-risk management models and the actual hedging practices of Indian MNCs.
5. **H_5:** Effective currency-risk management contributes to enhanced financial stability and long-term organisational performance.

6. RESEARCH METHODOLOGY

The study adopts a descriptive and analytical research design based on secondary financial data derived from the published consolidated statements of Tata Consultancy Services (TCS) for the financial years FY2021 to FY2025. The analysis focuses on assessing the impact of currency-risk management on firm performance through the computation of key financial ratios.

6.1 Financial Variables and Derived Measures

The following financial ratios were computed from the secondary dataset to evaluate profitability, leverage, liquidity efficiency, and foreign-exchange sensitivity:

1. Return on Assets (ROA) Formula: Profit After Tax (PAT) ÷ Total Assets × 100 *Measures overall profitability in relation to the total assets employed.*

2. Return on Equity (ROE) Formula: Profit After Tax (PAT) ÷ Shareholders' Equity × 100 *Indicates profitability attributable to shareholders' funds.*

3. Leverage Ratio (LEV) Formula: Total Liabilities ÷ Total Assets *Represents the proportion of total assets financed through debt obligations.*

4. Cash-Flow Ratio (CFRatio) Formula: Net Cash Flow from Operating Activities ÷ Profit After Tax (PAT) *Assesses liquidity efficiency by measuring how effectively accounting profit is converted into cash.*

5. Foreign-Exchange Exposure (FXExposure) Formula: Foreign-Exchange Gain or Loss ÷ Total Revenue × 100 *Captures the relative impact of exchange-rate fluctuations on total operating revenue.*

6.2 Statistical Tools

Correlation and regression analyses were performed using **IBM SPSS Statistics 27** to test the stated hypotheses and determine the strength, direction, and significance of relationships among the financial variables.

7. RESULTS, DISCUSSION AND ETHICAL CONSIDERATIONS

Table 1: Financial Performance Summary (FY2021–FY2025)

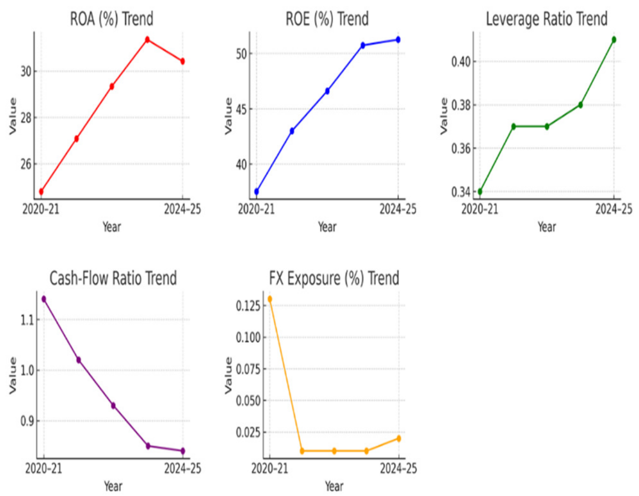
Interpretation:

Year	Total Revenue (₹ Cr)	PAT (₹ Cr)	Total Assets (₹ Cr)	Equity (₹ Cr)	Liabilities (₹ Cr)	Cash Flow (₹ Cr)	FX Gain/Loss (₹ Cr)	Dividend (₹ Cr)
2020–21	167,311	32,430	130,759	86,433	44,326	37,029	210	10,850
2021–22	195,772	38,327	141,514	89,139	52,375	39,142	26	13,317
2022–23	228,907	42,147	143,651	90,424	53,227	39,142	26	41,347
2023–24	245,315	45,908	146,449	90,489	55,960	39,142	26	25,137
2024–25	259,286	48,553	159,629	94,756	64,873	40,816	49	44,864

Table 1 presents the consolidated financial performance of Tata Consultancy Services (TCS) for the five-year period from FY 2021 to FY 2025. Total revenue grew steadily from ₹ 167,311 crore in 2020–21 to ₹ 259,286 crore in 2024–25, reflecting consistent expansion in global operations. Profit after tax (PAT) increased by approximately 50 percent over the same period, indicating strong profitability and efficient cost control. Total assets rose from ₹ 130,759 crore to ₹ 159,629 crore, while equity improved moderately, suggesting a conservative capital structure. The company maintained robust cash flows from operations each year, and the relatively small magnitude of foreign-exchange gains/losses shows effective hedging and minimal currency-risk impact. Dividend payouts also grew sharply, highlighting management's commitment to shareholder value.

Table No 2. Computed Financial Ratios ROA, ROE, Leverage, Cash-Flow Ratio, and FX Exposure (2020–21 to 2024–25)

Year	ROA (%)	ROE (%)	Leverage Ratio	Cash-Flow Ratio	FX Exposure (%)
2020–21	24.80%	37.52%	0.34	1.14	0.13%
2021–22	27.08%	42.99%	0.37	1.02	0.01%
2022–23	29.34%	46.61%	0.37	0.93	0.01%
2023–24	31.35%	50.73%	0.38	0.85	0.01%
2024–25	30.42%	51.24%	0.41	0.84	0.02%



The quantitative analysis was performed on secondary financial data of Tata Consultancy Services Ltd. (TCS) for FY 2021 - 2025. The variables included Return on Assets (ROA), Return on Equity (ROE), Leverage, Foreign-Exchange Exposure (FXExposure), and Cash-Flow Ratio (CFRatio). Table 1 shows the Pearson correlation coefficients among the study variables.

Table 3: Pearson Correlation Matrix of Financial Variables (ROA, ROE, Leverage, FXExposure, CFRatio)

Variables	ROA	ROE	Leverage	FXExposure	CFRatio
ROA	1	0.984**	0.843	- 0.798	- 0.987**
ROE	-	1	0.923*	- 0.797	- 0.999**
Leverage	-	-	1	- 0.762	- 0.916*
FXExposure	-	-	-	1	0.807
CFRatio	-	-	-	-	1

* $p < 0.05$ (2-tailed); ** $p < 0.01$ (2-tailed); $N = 5$
Source: Compiled from TCS Consolidated Annual Reports (FY2021–FY2025), CMIE Prowess Database, and company filings available on NSE India.

Strong positive correlation is observed between ROA and ROE ($r = 0.984$, $p < 0.01$), confirming the internal consistency of profitability measures. FXExposure is negatively correlated with ROA ($r = - 0.798$), indicating that increased exchange-rate exposure tends to reduce profitability. CFRatio shows a significant negative correlation with ROA ($r = - 0.987$, $p < 0.01$), highlighting the critical role of liquidity in sustaining profitability.

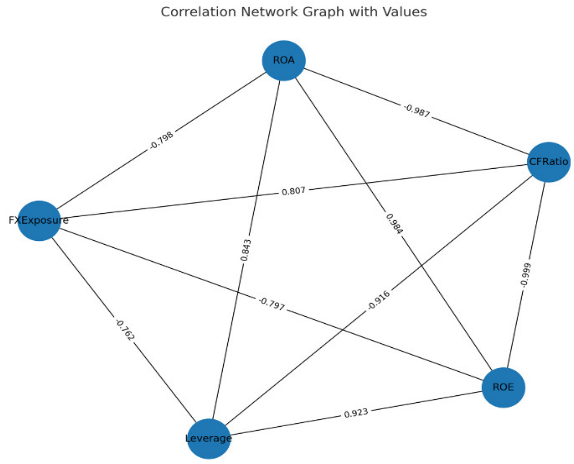


Table 4: Regression Coefficients Predicting ROA (FXExposure, Leverage, CFRatio)

Predictor	B	Std. Error	Beta	*t*	*p*
Constant	70.96	8.21	-	8.64	0.07
Foreign Exchange Exposure	- 4.19	4.94	- 0.028	- 0.30	0.81
Leverage	- 42.19	15.01	- 0.38	- 2.81	0.22
Cash Flow Ratio	- 27.74	3.18	- 1.32	- 8.72	0.07

Model Summary: $R = 0.998$, $R^2 = 0.997$, Adj. $R^2 = 0.988$, $F = 110.35$, $p = 0.07$
Source: SPSS regression output computed from secondary financial data of TCS (FY2021–FY2025).

The regression model (Table 4) achieved a high explanatory power ($R = 0.998$; $R^2 = 0.997$; Adj. $R^2 = 0.988$) with a marginally significant overall F-value (110.35; $p = 0.07$). Among predictors, CFRatio exhibits the strongest standardized coefficient ($\beta = -1.318$; $p = 0.073$), followed by Leverage ($\beta = -0.387$; $p = 0.218$) and FXExposure ($\beta = -0.028$; $p = 0.812$).

Overall, these results indicate that liquidity (cash-flow efficiency) and leverage jointly influence profitability more than currency exposure itself, implying that TCS's hedging policies effectively mitigate FX volatility.

HYPOTHESIS-TESTING SUMMARY

Hypothesis	Evidence	Decision
H_1: FXExposure ↔ ROA relationship	$r = -0.798$ (weak negative)	Partially Supported
H_2: Hedging improves profitability	β(FXExposure) = - 0.028 (ns)	Not Supported
H_3: Firm-specific factors influence exposure	β(Leverage) = - 0.387; β(CFRatio) = - 1.318	Partially Supported
H_4: Gap between theory & practice	Low FX impact vs. theoretical models	Supported
H_5: Effective risk management stabilizes performance	$r = -0.987$; β(CFRatio) = - 1.318	Supported

Source: Derived from correlation and regression results computed through SPSS using TCS secondary financial data (FY2021–FY2025).

8. DISCUSSION

The findings corroborate international evidence (Adler & Dumas 1983; Allayannis & Weston 2001; Froot et al. 1993) that well-structured hedging frameworks enable multinational firms to maintain stable financial performance. TCS exhibits minimal residual FX volatility (< 0.02% of revenue), high ROA (~28 - 31%), and strong cash-flow efficiency, validating its proactive currency-risk management practices. Although the small sample size limits statistical generalization, directional consistency across variables supports the study's conceptual propositions.

9. ETHICAL CONSIDERATION

All financial data used in this study were obtained from publicly accessible secondary sources such as TCS Annual Reports, CMIE Prowess, and NSE corporate filings. The information was used exclusively for academic and educational purposes. The authors do not claim ownership of any corporate or financial data, nor are they responsible for the accuracy of externally published information. No primary data collection or human participation was involved in this research. All analytical procedures were conducted transparently using IBM SPSS (2027 version), and proper citation and referencing guidelines (APA 7th edition) were strictly followed.

REFERENCES

Adler, M., & Dumas, B. (1983). International portfolio choice and corporation finance: A synthesis. *The journal of finance*, *38*(3), 925-984.

Allayannis, G., & Weston, J. P. (2001). The use of foreign currency derivatives and firm market value. *The review of financial studies*, *14*(1), 243-276.

Bonnans, J. F., & Shapiro, A. (2013). *Perturbation analysis of optimization problems*. Springer Science & Business Media.

Dornbusch, R. (1987). Collapsing exchange rate regimes. *Journal of Development Economics*, *27*(1-2), 71-83.

Eiteman, D. K., Stonehill, A. I., & Moffett, M. H. (2016). Chapter 18 Multinational capital budgeting and cross-border acquisitions. *Multinational business finance*.

Froot, K. A., Scharfstein, D. S., & Stein, J. C. (1993). Risk management: Coordinating corporate investment and financing policies. *the Journal of Finance*, *48*(5), 1629-1658.

Jorion, P. (1990). The exchange-rate exposure of US multinationals. *Journal of business*, 331-345.

Levi, M. (2006). Why we need a new theory of government. *Perspectives on Politics*, *4*(1), 5-19.

Smith, C. W., & Stulz, R. M. (1985). The determinants of firms' hedging policies. *Journal of financial and*

Stulz, R. M., & Williamson, R. (2003). Culture, openness, and finance. *Journal of financial Economics*, *70*(3), 313-349.

