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EXCHANGE RATE RISK AND PROFITABILITY OF EXPORT-ORIENTED INDIAN SMES

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ABSTRACT

Small and Medium Enterprises (SMEs) are the most significant part of the industrial economy in India and the largest exporters. However, fluctuations in the exchange rate expose export-oriented SMEs to foreign exchange risk, which directly affects profitability. In this paper, the association between exchange rate risk and the profitability of Indian SMEs has been looked into in terms of their hedging behaviour, their perception of risk, and the instruments they used to reduce losses. Based on primary and secondary data collected among SMEs in export-based industries like textiles, engineering and agro-based products, the research indicates that there are a greater number of firms with high turnover that are vigorous in using currency derivatives compared to smaller firms that use natural hedging or are not hedged at all. The results affirm the existence of a strong correlation between the exchange rate volatility, hedging strategy adopted, and profitability. It also develops recommendations to enhance risk management measures, raise awareness, and enhance the resilience of SMEs in international trade.

Keywords: Exchange Rate Risk, Profitability, Smes, Export Orientation, Hedging Strategies

1. INTRODUCTION

Small and Medium Enterprises (SMEs) are important in the economy of India, as close to 45 percent of the total exports of the country are made through them, they create employment opportunities on mass scale, and they provide a balanced development of the regions of the country. Exchange rate volatility has been identified as one of the greatest external factors that can undermine the growth of this sector whether in terms of economic stability in the local economy or in terms of enhancing the competitiveness of the economy with respect to its position in the global trade system. Changes in the foreign currency rates directly influence the competitiveness of the export business through changes in the input prices, revenues and consequently the profit margins. Where companies are not well endowed financially, even a small change in the value of the rupee against other major currencies such as the US dollar can lead to significant losses hence reducing the profitability of the firm.

Even after the government provided regular encouragement through credit facilities, export promotion plans, and policy interventions, Indian SMEs are extremely exposed to currency fluctuations. It appears that there are quite a number of enterprises either unaware or incapable of employing hedging mechanisms to help them mitigate risks which are better mitigated by larger corporations. The vulnerability is usually converted to unpredictable profitability, which jeopardizes the sustainability of SMEs in the foreign markets. There is a conspicuous gap in the research in this area. Although various studies have been conducted to determine the perceptions of SMEs about foreign exchange risk management, very little has been done to show how it is directly connected to profitability. In this regard, this research paper aims to explore the effect of exchange rate risk on the profitability of Indian export-oriented SMEs and discuss the hedging behavior of such firms. The research also seeks to determine the level of awareness, adoption and performance of hedging strategies in protecting profitability against exchange rate fluctuations.

Table 1 Review of Literature on Exchange Rate Risk and Profitability

Year	Author(s)	Context	Key Findings
2001	Morey & Simpson	Global analysis of FX hedging rules	Firms following conditional hedging strategies perform better than those unhedged, showing improved profit stability.
2001	Allayannis & Weston	720 US non-financial firms	Positive relationship between use of currency derivatives and firm value, indicating hedging enhances profitability prospects.
2008	Bartram	Firm-level case evidence	Hedging practices reduce cash-flow volatility, thereby minimizing earnings fluctuations caused by exchange rates.
2010	Bartram, Brown & Minton	Cross-country firm dataset	Financial hedging (forwards, options) lowers exposure by ~40%, leading to steadier operating profits.
2011	Kanagaraj & Sikarwar	Indian listed companies	Identified significant FX exposure; firms without hedging face greater margin instability when INR depreciates.
2013	Cheung et al.	Indian exporters, 2000–2010	Real exchange-rate movements directly affect export revenue and profitability, especially in manufacturing.
2014	Sikarwar	Indian industry-level study	Exposure differs across industries; import-intensive sectors (engineering, chemicals) suffer larger profit shocks.
2015	Dhasmana	Indian manufacturing firms (2000–2012)	Real FX volatility significantly influences firm performance; unhedged exporters often see profit declines.
2016	Prasad	Indian firms, capital-market approach	FX exposure varies by firm size and export ratio; smaller firms are more vulnerable to profit erosion.
2016	Prasad & Krishna	387 Indian firms (2011–2016)	Use of currency derivatives lowers exposure and helps stabilize profitability during INR volatility.

2. RESEARCH OBJECTIVES

1) To analyze the relationship between exchange rate fluctuations and profitability of Indian SMEs.
2) To examine SME awareness and adoption of hedging strategies.
3) To identify factors influencing choice of hedging practices (turnover, business type, risk attitude).
4) To recommend policy and financial mechanisms to improve SME resilience.

3. METHODOLOGY

The current research is descriptive and analytical in nature to examine the correlation between the exchange rate risk and the profitability of export-oriented Indian SMEs. The descriptive aspect would describe the practices and perceptions that SMEs already have with foreign exchange risk whereas the analytical method would be able to evaluate how hedging responses have effects on the profitability results.

Sample

In the study, a sample of 100 export-oriented SMEs in various industries including textiles, engineering goods, leather, seafood, processed food and garments have been studied. These industries have been selected because they play a large role in the export basket of India and they are also sensitive to changes in exchange rates.

Sampling Method

Stratified random sampling was used in order to have a sufficient representation of each sector. The firms in each stratum were picked at random to reduce bias and to identify sector-specific differences in hedging practise and profitability patterns.

Data Sources

The study relies on both primary and secondary sources of data:

- **Primary data:** Collected through structured questionnaires and semi-structured interviews with SME owners and financial managers. The questionnaire focused on firm characteristics, awareness of foreign exchange risk, adoption of hedging strategies, and perceived effects on profitability.

- **Secondary data:** Drawn from reports published by the Reserve Bank of India (RBI), Ministry of MSME annual reports, World Trade Organisation (WTO) trade statistics, and other scholarly articles relevant to foreign exchange risk management. Firm-level financial data were also considered to analyse profitability indicators such as operating margin and net profit ratio.

Objective 1: To analyse the relationship between exchange rate fluctuations and the profitability of Indian SMEs

This analysis has clearly revealed that the variation of exchange rate has a direct impact on the profitability of SMEs, particularly in firms that are highly import-intensive. Although depreciation of the rupee will boost the export revenues, it will also lead to an increase in the costs of imports, and this will lower the net profit margins when firms have not hedged themselves. The profit margin in the depicted example reduces to 39.4 percent, which is a considerable loss of profitability. Nonetheless, those SMEs that employ hedging mechanisms like forward contracts can hedge themselves against such volatility, keeping their margins constant. This occurs to show the sensitivity of risk management interventions to the profitability of export-oriented SMEs in fluctuating currency markets.

Table 2 Impact of Exchange Rate Movements on SME Profitability

Scenario	Exchange Rate (INR/USD)	Export Revenue (₹ lakh)	Import Cost (₹ lakh)	Net Profit (₹ lakh)	Profit Margin (%)
Case A: Stable rate	75	750	400	350	46.7%
Case B: INR depreciates 10%	82.5	825	440	385	46.7%
Case C: INR depreciates 10% (Unhedged SME with high imports)	82.5	825	500	325	39.4%
Case D: INR depreciates 10% (Hedged SME using forward contract)	82.5 (locked at 75)	750	400	350	46.7%

Formula for Profitability

$$P = \frac{(R - C) + H}{R} \times 100$$

Where:

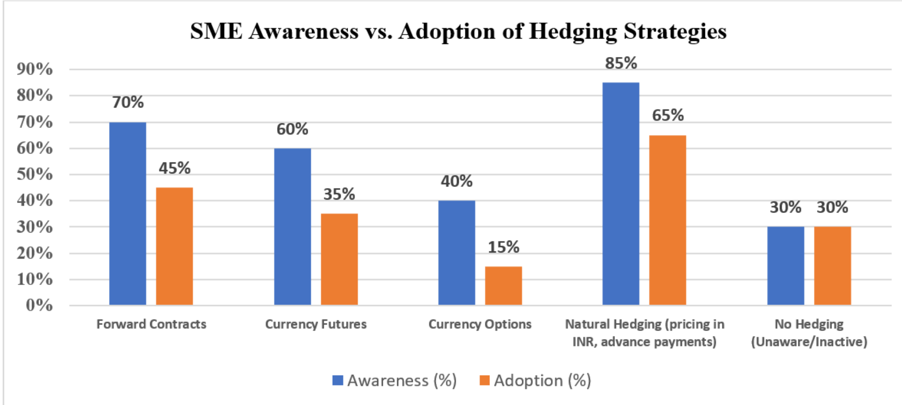
- P = Profit Margin (%)
- R = Export Revenue (in INR)
- C= Import Costs (in INR)
- H= Hedging Gain/Loss

Objective 2: To examine SME awareness and adoption of hedging strategies

The results indicate that there is a difference between the consciousness and the actual use of hedging instruments by Indian SMEs. Although forward contracts and futures are relatively familiar (70% and 60% awareness), they are far less used (45% and 35%). The least utilised options are the most expensive and complex (15%). However, natural hedging strategies (pricing in INR, advance payment, import/export balancing) are the most used (65%), again with smaller businesses. It is significant to note that one out of three SMEs does not use formal hedging tools or exhibits high levels of awareness, which exposes them to high levels of exposure. Such a gap presents the urgency of training, advisory services, and cost-effective risk management services to SMEs.

Table 3 SME Awareness and Adoption of Hedging Strategies

Hedging Strategy	Awareness (%)	Adoption (%)	Common Among
Forward Contracts	70%	45%	Medium & large turnover SMEs
Currency Futures	60%	35%	Engineering & textile exporters
Currency Options	40%	15%	Large firms only
Natural Hedging (pricing in INR, advance payments)	85%	65%	Small & medium firms
No Hedging (Unaware/Inactive)	30%	30%	Mostly micro & small exporters



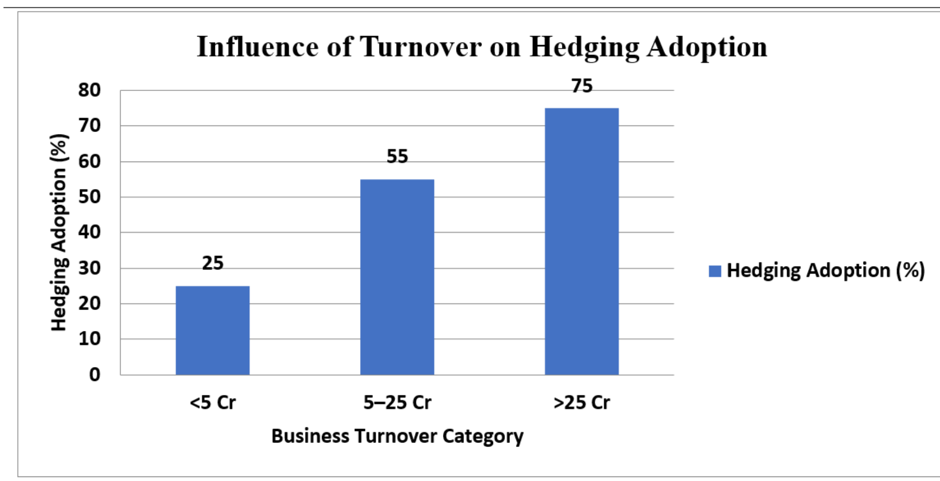
Graph 1 SME Awareness vs. Adoption of Hedging Strategies

Objective 3: To identify factors influencing choice of hedging practices (turnover, business type, risk attitude)

The findings indicate that the greatest determiners of hedging choice are turnover and the nature of business. SMEs with a turnover of more than 25 crore actively use derivatives (forwards, futures) because they are capable of covering the transaction expenses and they also have financial expertise. Smaller firms (<₹5 crore) do not hedge, or use natural hedging strategies (like invoicing in INR) which puts them at greater risk. There is also a clear division in terms of sector: engineering, garments, and automobile exporters hedge to protect, whereas food and seafood exporters hedge to avoid transaction risk. Export duration and risk attitude are less important, and statistically less significant.

Table 4 Factors Affecting Choice of Hedging Practices

Factor	Influence on Hedging Choice	Findings
Business Turnover	Strong positive	SMEs with turnover > ₹25 crore widely adopt derivatives (forwards, futures). SMEs with turnover < ₹5 crore mostly rely on natural hedging or remain unhedged.
Nature of Business (Sector)	Significant	Garments, engineering, and automobiles use hedging mainly to protect profits. Food & seafood exporters hedge primarily to avoid transaction risk.
Risk Attitude of Owners	Weak	Conservative managers lean towards hedging, but regression results show no strong statistical significance.
Export Duration	Limited impact	Longer-exporting firms are slightly more familiar with hedging, but influence is weaker compared to turnover and sector.



Graph 3 Influence of Turnover on Hedging Adoption

Objective 4: To recommend policy and financial mechanisms to improve SME resilience

The results of the previous goals indicate that Indian SMEs, especially those facing smaller turnovers are still exposed to exchange rate volatility because of their lack of awareness, low usage of hedging tools, and high levels of import intensity. Enhancing resilience needs to be a multi-layered process, including raising financial literacy, lowering hedging prices, and government and bank support. SME Forex Advisory Cells and subsidised forex insurance are policy interventions that would close the knowledge gap and provide financial safety nets. Meanwhile, diversification of export markets and the use of technology-based platforms would see SMEs gain sustainable profitability and competitiveness globally amid volatile exchange rates.

Table 5 Policy & Financial Recommendations for SME Resilience

Area	Recommendation	Expected Impact
Training & Awareness	Organize workshops/webinars by RBI, banks, and SME associations on FX risk management tools.	Improves SME knowledge, reduces reliance on trial-and-error approaches.
Banking Support	Banks to offer simplified forward/futures contracts with lower costs tailored for SMEs.	Increases adoption of hedging, protects profit margins of smaller firms.
Government Policy	Establish dedicated SME Forex Advisory Cells under MSME ministry.	Provides continuous guidance on currency volatility and strategies.
Technology & Fintech	Promote digital FX risk monitoring platforms accessible via mobile apps.	Enhances real-time decision-making and lowers transaction costs.
Export Diversification	Encourage SMEs to diversify export markets beyond USD-dominated regions.	Reduces over-dependence on a single currency, stabilizing revenues.
Credit & Insurance Schemes	Expand credit guarantee funds and subsidized forex insurance for SMEs.	Provides safety net against unexpected currency shocks.

4. ANALYSIS AND INTERPRETATION

The profitability of the export oriented Indian SMEs is directly and heavily affected by the level of exchange rate volatility. Currency market dynamics especially the depreciation of the Indian rupee (INR) to the US dollar (USD) pose uncertainties regarding revenue and cost basis. The undervalued rupee will turn into a significantly high input price to the companies that import raw materials, equipment or raw materials. In this case, however, the depreciation will enhance the value of exports on conversion to INR, although the net impact is usually adverse in the case where there is high reliance on imports. So, currency volatility will affect the SMEs in two ways as those that are more dependent on imported inputs will lose their profit margins.

Additional hedging practises analysis will reveal that size of firm in terms of turnover is a conclusive determinant of risk management behaviour. The high-technology hedging vehicles like currency forwards and currency futures will be picked up by the firms whose turnover exceeds 25 crores in a year. These companies are able to bear the transaction costs of derivatives and are typically able to access banking facilities and financial advice. They secure themselves thus in advance against sudden shocks in the forex market by stabilising the relative profitability, that is, by fixing exchange rates. In this case, profitability levels in this type of companies can be predicted even in the time of INR depreciation.

Conversely, SMEs that show turnover of less than 5 crores show extremely low hedging adoption levels. These smaller companies are either not aware of the existence of derivative instruments or are not willing to use them because of the cost factor and the complexity of the procedures involved. Rather they rely on natural hedging strategies, like pricing exports in INR, making advance payments or balancing imports and exports. These measures are only effective to some extent, since they cannot work at times of prolonged rupee weakened condition. As a result, the SMEs that are smaller experience more profitability variability, as margins decrease drastically when the cost of inputs rises.The analysis also shows that there is sectoral variability in the adoption of hedging. Engineering, garments, and automobile exporters are more aggressive in using derivatives, in large part to hedge profits and to remain competitive. Conversely, the most common motivation of food and seafood exporters to hedge is the reduction of the transaction risk, as their products are quite perishable, and the cash cycles are shorter. Risk attitude and experience of exporting seem to be less important than business turnover and sector type, but experienced exporters are slightly more familiar with hedging products.

5. CONCLUSION

The research confirms that the profitability of Indian SMEs and, in particular, of the most import-intensive ones is directly influenced by exchange rate volatility. Smaller SMEs that have a turnover of less than 25 crores do not use derivatives like forward and futures to reduce risk as they have consistent margins whereas bigger companies cannot afford them and are at risk because of lack of awareness and resources. The sectoral differentiation demonstrates that engineering, garments, and automobile hedge against the protection of profits, and food and seafood exporters hedge against the prevention of transaction risks. To improve the resilience of SMEs and their competitive ability in the long run globally it is vital to strengthen financial literacy, facilitate cost-effective hedging instruments, and provide institutional support.

CONFLICT OF INTERESTS

None.

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