

FOREIGN EXCHANGE RISK MANAGEMENT : A CRITICAL REVIEW OF LITERATURE

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Introduction

When business is conducted overseas, currencies have to be converted at some prevailing rate. Since most currencies are valued according to the marketplace, there are constant changes in the exchange rates. This gives rise to exchange rate risk. There are several ways to reduce exchange rate risk. Two popular approaches are hedging and netting. Hedging is when one buys or sells a forward exchange contract to cover liabilities or receivables that are denominated in a foreign currency. Forward exchange contracts offset the gains or losses associated with foreign receivables or payables. Other forms of hedging are money market hedges, optional swaps, money market swaps, currency swaps. Success of a business firm largely depends on how effectively it manages foreign exchange risks.

Statement of Research Problem

Foreign exchange risk is the risk associated with the unexpected changes in exchange rates which affect the value of a firm's assets or liabilities. Exchange rates are unpredictable and envisage three main types of exchange exposures for multinational corporations namely

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translation (accounting) exposure, transaction (transaction) exposure, and economic exposure. The present study reviews the available literature on foreign exchange risk management practices by multinational firms.

Need and Significance of the Research

Foreign exchange risk has assumed great importance due to globalisation and internationalisation of world markets. Exchange rate risk amongst other forms of risk is a growing concern of multinational firms. As such it has attracted the interest of the academic community to study its aspects in detail.

Objective of the Study

To study the available literature relating to Foreign Exchange Risk Management by corporate.

Review of Literature Upto 2000

Nance R. Dean et al (1993) provided evidence on the hypothesis that hedging increases firm value by reducing expected taxes, expected costs of financial distress, or other agency costs. The study used survey data on firms' use of forwards, futures, swaps and options combined with COMPUSTAT data on firm characteristics. It was suggested that firms which hedge face more convex tax functions, have less coverage of fixed claims, are larger, have more growth options and employ fewer hedging substitutes.

Froot A. Kenneth et al (1993) in their study developed a general framework for analyzing corporate risk management. They examined a series of practical applications for the developed framework and concluded that optimal hedging strategy for a firm will depend on both the nature of product market completion and on the hedging strategies adopted by its competitors.

Samant (1997) suggested that external commercial borrowings have emerged as a cheaper financing option due to the interest rate differential in foreign currency as compared to Rupee borrowings. However, the foreign loan has risks like exchange rate risks attached with it and so a detailed hedging strategy along with proper internal control systems is to be laid down by corporate.

Breeden Douglas et al (1998) in their paper “Why do firms hedge“ presented an asymmetric information model of hedging that had the intuition that hedging is undertaken by higher ability managers .The results indicated that hedging occurs when higher ability managers are substantially different from lower ability managers or the costs of hedging are low.

Guay R. Wayne (1999) examined derivatives’ role in firms initiating derivatives use. The study observed that firm risk declines following derivatives use and emphasised the importance of hedge accounting rules that incorporate the impact of derivatives and hedged items simultaneously.

Bartram M.Sohnke (2000) presented a comprehensive review of positive theories and their empirical evidence regarding the contribution of corporate risk management to shareholder value. It was argued that because of realistic capital market imperfections, such as agency costs, transaction costs, taxes and increasing costs of external financing, risk management on the firm level (as opposed to risk management by stock owners) represents a means to increase firm value to the benefit of the shareholders.

Fatemi Ali et al (2000) compared the perceived relevance of different types of risks with the intensity of their management in different German firms. The questionnaire was mailed to 153 large non-financial firms listed on the Frankfurt Stock Exchange and received responses from 71 of the firms.88% of the respondents indicated that they used derivatives instruments .The study found that firm survival is rated as the top goal of risk management. Other important goals were to increase the profitability and to reduce earnings volatility.

Brown W. George (2000) focussed in detail on foreign exchange risk management at a single, large multinational corporation. The analysis relied primarily on a three month field study. Precise examination of factors affecting why and how the firm manages its foreign exchange exposure were explored through the use of internal firm documents, discussions with managers and data on 3110 foreign exchange derivative transactions over a three and a half year period .It was observed that the firm had a foreign exchange programme that was systematic,extensive and an integral part of foreign operations ,and had a strong preference for using options to structure

its hedges. Exchange rate volatility, recent hedging history and managerial views were key factors determining optimal hedging policies.

Review of Literature For the period 2001- 2010

Alayannis et al (2001) analysed the effectiveness of operational and financial hedging by U.S non-financial multinationals (1996-1998). The authors used various measures of the geographical dispersion of the firm's operations as a proxy for operational hedging. They found that on an average operational hedging does not reduce exchange rate risk exposure on its own. Financial hedges are effective on their own, and so is a combination of financial and operational hedging.

Popov Victor et al (2003) found significant differences in foreign exchange risk management policies, particularly in the choice of the type of exposure to cover and the hedging instruments used. Each company that they studied had a different approach to foreign exchange risk that was based upon its industry, trade volumes, geographical markets, market power, treasurer's opinion. They concluded that in order to develop a good foreign exchange risk management.

Carter et al (2003) also analysed U.S multinationals (1994-98) and found that operational hedges and financial hedges reduce exchange rate risk, whether used on their own or in a coordinated manner and concluded that operational and financial hedges are complementary risk management strategies.

Mc Carthy Scott(2003) made a comparative study of the different strategies for managing foreign exchange exposures namely never hedging, hedging every exposure using a forward exchange contract, and hedging on selective occasions using a forward exchange contract using Sherpe's model and the minimum variance model. The results of the study inferred that always hedging is preferable to remaining unhedged for an exporter with an Australian Dollar (AUD) exposure while remaining unhedged is superior to always hedging for both the Singapore Dollar (SGD) and Japanese Yen (JPY).

Goswami Gautami et al (2004) examined how the economic exposure of multinational firms affect their choice of debt financing and use of currency swaps. They held that currency swaps

will continue to be used by firms having economic exposure even as barriers fade away with rapid liberalisation of global markets.

Viswanathan K.G (2005) attempted to study the use of foreign exchange derivatives (FXD) and its benefits to the U.S multinational corporations. They observed a positive relationship between the notional components of foreign exchange derivatives used and the extent of foreign involvement by MNCs.

Aabo Tom (2005) studied the exchange rate exposure management of Danish non-financial companies. The empirical study conducted, highlighted that the combined interaction of a firm's size, exports and foreign subsidiaries as well as emphasis on flexibility are important to real options usage.

Muller A (2005) Studied the effects which derivative usage had on the foreign exchange risk exposure of 471 European non financial firms and found strong evidence in favour of existence of economies of scale in hedging and showed that European firms engaged in hedging programmes in response to tax convex.

Mathur,Nam (2006) investigated how operational hedging is related to financial hedging .They confirmed that although operational and financial hedging strategies are complementary , firms using operational hedging are less dependent on the use of financial derivatives.

Michael P (2006) reviewed the traditional types of exchange rate risk faced by firms, namely transaction , translation and economic risks. It presented the VaR approach as the currently predominant method of measuring a firm's exchange rate risk exposure and examined the main advantages and disadvantages of various exchange rate risk management strategies. The descriptive study based on the reported U.S data noted that the larger the size of a firm the more likely it is to use derivative instruments in hedging its exchange rate risk exposure.

Sheedy Elizabeth (2006) explored the possible speculative use of derivatives in the countries of Hong Kong and Singapore. The study was based on a survey of non-financial corporations using

the format of the 1998 Wharton study. It was found that derivatives were used more extensively in Hong Kong and Singapore than in the U.S and market predictions play a significant role in the size and timing of hedge trades and derivatives are often used for active management of exposures.

S.M.Danijela (2007) analysed risk management practices and derivative usage in large Croatian and Slovenian non-financial companies and explored if the decision to use derivatives as risk management instruments in the analysed companies is a function of several firms' characteristics that have been proven as relevant in making financial risk management decisions. The empirical study concluded that forwards and swaps are by far the most important derivative instruments in both countries.

Nguyen Hong V et al (2007) attempted to study the use of derivatives for hedging by U.S non-financial firms. In their descriptive study , they explained what derivative instruments are , the disclosure requirements that have implications for the availability of data and for interpreting empirical results on derivatives use. It was suggested that the use of derivative instruments may moderate the impact of monetary policy shocks.

SS Debashish (2008) focussed on foreign exchange risk management practices and derivative product usage by large non-banking Indian based firms apart from techniques of risk hedging, the risk evaluation methods adopted and the risk management policy. They conducted an exploratory survey of both old and new economy corporate to know the attitudes, perceptions and concerns of Indian firms towards FERM of derivatives and their uses among the firms .They observed that Indian corporate enterprises were somewhat halting in their approach to the use of derivatives due to factors like confused perception and lack of understanding , inadequate support from the Board and other tax, legal and monetary considerations.

Sivakumar A et all (2008) attempted to evaluate the various alternatives available to the Indian corporate for hedging financial risks. By studying the use of hedging instruments by major Indian firms from different sectors , it was concluded that forwards and options were preferred as short term hedging instruments while swaps were preferred as long term hedging instruments.

Nagendran R (2008) studied the foreign exchange rate movements in India for the major currencies like U.S Dollar, GB Pound Sterling, Euro and Japanese Yen from 1999 to August 2007 and attempted to give solutions to this exchange rate challenge using Technical Analysis. It was suggested that Technical Analysis as a tool to decide what to hedge and when to hedge is fairly reliable and can be used in combination with a few more methods to predict the directional movements of the foreign exchange rates.

Dohring Bjourn(2008) has discussed exchange rate exposure in terms of transaction risk, translation risk and broader economic risk. A survey of self reported hedging strategies and instruments of euro-area blue chip companies indicated that exposure to exchange rate variations is a major issue for euro-area firms. Euro invoicing effectively shifted transaction risk to the foreign importers. The paper suggested that euro-area exporters have instruments like forwards and options as well as non-derivative financial hedges and operational hedges to address economic risk.

Vij Madhu (2009) attempted to investigate whether the chief financial officers of Indian companies had a clear understanding of the difference between translation, transaction and economic exposure. Questionnaire survey was employed in the study which also threw light on the hedging policies used by firms. It was found that very few firms (15%) indicated that they hedged against both translation and economic exposure .64 % covered themselves substantially or partially .Only 20% firms did not hedge .About 50% of the total firms surveyed followed FASB-52 completely. Long dated and short dated forward exchange contracts were found to be popular hedging techniques .

Dash M (2009) studied the impact of currency fluctuations on cash flows of IT service providers and analysed and evaluated the foreign exchange risk management strategies to find out which of the strategies was appropriate in particular situations. The study based on secondary data from Jan'07 to Dec'07 considered foreign exchange risk management strategies without hedging , hedging with forward currency contracts, hedging with currency potions and cross currency hedging. He suggested that forward currency hedging strategy yielded the highest mean percentage gain amongst the FOREX risk management strategies considered.

Review of Literature 2010 Onwards

Goel Manisha et al (2011) made a comparative analysis of management of foreign exchange exposure by banking and non-banking as well as foreign and Indian MNCs operating in India. The study based on a questionnaire using a sample of 200 Indian and foreign MNCs operating in India found that majority of firms face all of three foreign exchange exposures ; transaction exposure, translation exposure and economic exposure. However, most of the companies in the study managed only their transaction exposure.

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Annachhatre M (2011) analysed the causes for the volatility of the Indian rupee based on secondary data and emphasised on the need of an effective risk management tool . The researcher recommended that the wide choice for the hedging techniques in the market and analytical basis for the use of hedging tool will improve the market efficiency.

Charumathi B (2011) attempted to model the factors which determine the usage of interest rate derivatives by large Indian non-financial firms. The study undertaken from a sample constructed from the annual reports of the companies showed that R&D expenses , interest cover, revenues and size are important factors in determining the extent of interest rate derivative usage by large Indian companies.

Afza Talat et al (2011) attempted to identify the factors affecting the firms' decision to use foreign exchange derivative instruments by using the data of 86 non-financial firms listed on Karachi Stock Exchange for the period 2004 -2007. Non parametric test was used to examine the mean difference between users and non users operating characteristics. The study found that firms having higher foreign sales are more likely to use derivative instruments to reduce

exchange rate exposure. Moreover, financially distressed large size firms with financial constraints and fewer managerial holdings are more likely to use foreign exchange derivatives.

Assad Mussa J (2011) attempted to study the capacity to manage foreign exchange risk among businesses and to identify the attributes which explain the divergence among individuals/firms. He conducted a survey to capture individuals'/firms' opinions and assessment of foreign currency risk management awareness, practices and competencies. It emerged from the study that the perception within the country to manage foreign currency risk was weak and it was not a normal practice for local firms to have a policy for guiding the practice with respect to foreign currency risk management.

Yin Chen (2012) examined the effects of derivative hedging on firms' financial activity using survey data from disclosures in annual reports of the Chinese listed companies and found that there was a positive relationship between debt leverage of companies and scale of derivative hedging. The companies which used derivative hedging distributed more dividends.

Sivarajadhanaval P(2012) analysed the effect of exchange rate risk on corporate profitability of IT industry. The study based on secondary data emphasised that the corporate needs to manage their foreign revenues by hedging their positions in the foreign currency future market.

Pahuja Anurag (2012) analysed investors' perception regarding currency derivatives as a hedging tool in India .Data collected through questionnaires from 100 respondents were analysed using percentages and weighted average score for ranking .The study identified that a perception with majority of investors is that currency derivatives trading can be particularly used for hedging.

Takatoshi ITO et al (2013) investigated the impact of exchange rate risk management on Japanese firms' exchange rate exposure.An empirical analysis was conducted on data obtained through questionnaire sent to all Tokyo Stock Exchange listed firms in 2009 to find whether the risk management tools viz. Financial and operational hedging , the choice of invoice currency and the price revision strategy specifically affects their foreign exchange exposure . It was found that firms with larger dependency on foreign markets have larger foreign exchange exposure.

Second, the higher is the U.S Dollar invoicing share, the larger is the foreign exchange exposure. Third, Yen invoicing itself reduces the foreign exchange exposure. These findings indicated that Japanese firms utilise operational and financial hedging strategies and price revision policy depending on their choice of invoicing currency.

Bal Gyan Ranjan (2013) attempted to evaluate the various alternatives available to the Indian corporate for hedging financial risks. In the study of selected companies it was observed that IOCL had a large proportion of unhedged foreign currency exposure. The greatest hindrances to Indian companies are legal restraints by various regulatory authorities within as well as outside the country. The study stressed the need to increase the efficiency in managing the foreign exchange exposure by Indian companies.

Jain Akansha (2013) attempted to evaluate the various alternatives available to the Indian corporate for hedging financial risks. In the descriptive study based on secondary data, she suggested that the corporate should be equipped with the latest methods of technical analysis together with the introduction of statistical packages for better and accurate forecasting and timely action and rupee-dollar futures should be introduced in Indian stock exchanges as a new product of derivatives so as to provide an another route for hedging forex risks.

Dash M et all (2013) made a comparative analysis of the performance of four different FOREX hedging strategies, approaching the problem from the point of view of exchange rate dynamics, using a model for exchange rate movements. Based on the results of the simulation of this model, the hedging strategies which yielded the highest returns and the lowest variability of returns were identified. The result of the study suggested that :

- (i) When cash inflows only are to be hedged, options hedging using out- of-the-money currency put options yields best results ;
- (ii) When cash outflows only are to be hedged, options hedging using out-of-the-money currency call options yields best results;

When both cash inflows and outflows are to be hedged, options hedging using out-of-the-money currency put options for inflows and out-of-the-money currency call options for outflows yields best results.

Srivastava A (2013) examined the Indian Foreign Exchange Market scenario in his descriptive study. It was observed that many firms still prefer to keep their risk exposures unhedged as they find the forward contracts as cost centres. Also, the market for derivatives in India other than forward contracts is very shallow. He recommended that firms should make informed hedging decisions with the help of professionals in the field and should consider going for various new derivatives that are flexible and cost effective.

Hon Tai-Yuen (2013) studied the ways that the Hong Kong companies in the Hong Seng Index Constituent Stocks manage their financial risk with derivatives. By analysing the companies' annual reports and financial reviews, it was found that 82.6% of these companies used derivatives in 2010. Specifically, 58.7% of them used swaps to hedge interest rate risk, and 54.3% of them used forward contracts to hedge foreign exchange risk.

Singhraul P.B et al (2014) attempted to evaluate the various alternatives available to the Indian corporate for hedging financial risks and strategies adopted by select Indian IT companies. The study based on secondary data found that instruments like currency swaps, interest rate swaps, forwards and options are extensively used by Indian corporate. The study recommended that as the IT sector would expand their operations globally, it is needed to use diverse hedging strategies like range, bilateral netting and invoice billing to face the future challenge.

Peter M.M et all (2014) examined the role of foreign exchange risk management on performance management of exporting firms in developing countries taking Uganda as the case study. The study using a cross section and descriptive research design using a representative sample of 51 exporting firms identified foreign exchange risk as a business problem and carried out currency risk quantification and used currency risk management strategies namely swap contracts, money market hedge, diversification etc. .

Berisha Vlora (2014) examined the role of derivatives in reducing exchange rate risk .The study based on qualitative data obtained from secondary sources emphasised that efficient management of currency risk is essential for the survival of a company. Depending on the specific type of currency risk different hedging strategies should be utilised.

policy , a firm should know the level of risk for all currencies and adapt its policy to the knowledge of the managers regarding the instruments used.

Chaitanya Ch.et al (2015) attempted to study the impact of exchange rate on select Indian IT companies ,Market Price Of Share(MPS) and the tools and techniques used by Indian IT majors to net their foreign exposures. An analysis of the data collected from various secondary sources revealed that foreign exchange rate had significant impact on market as a whole.

Vasumathy S (2015) examined the risk management practices of Indian small and medium sector. A descriptive approach was adopted for getting a deeper insight into the practices. The results indicated extensive usage of forward contracts, existence of risk management systems in some firms and comparatively less awareness about derivatives among the firms and insisted that the firms should monitor exchange rates on a regular basis.

Mittal S (2015) examined how forwards are used by selected Indian companies for minimising currency exchange risk in an efficient manner .The study conducted on secondary data with a sample of top 100 companies involved in international trade analysed that majority of the companies were using forward as their widely used technique for hedging their foreign exchange fluctuation risk as it helped to stabilise total risk.

Goodhart Marc et all (2015) attempted to identify the factors which determine how currency rates affect a business's cash flows. Risks such as portfolio risks, structural risks and transaction risks were highlighted. They emphasised that managers should focus on those currency risks that could lead to financial disruption or distress.

Bodner M.Gordon et al²⁶ presented a comparison of the responses to parallel surveys on derivative usage conducted on comparable samples of U.S and German non-financial firms. The results suggested that firms in both countries primarily used derivatives to manage risks from fluctuating financial prices and that the determinants of derivatives use are primarily driven by economic considerations such as activities and firm characteristics and not the result of corporate culture or other country-specific differences.

Sahoo Abhimanyu provided an overview of derivatives, covering three main aspects of these securities :instruments, markets and participants. The study throws light on the classification of derivatives made on different basis,the development of derivative market in India and the participants in derivative market. The paper concluded that derivatives are expected to grow further with financial globalisation and an important challenge is to design new rules and regulations to mitigate risks.

RESEARCH GAP

From the review of literature it is learnt that very less number of studies have been conducted in India. Hence more research work can be done in this area in India.

CONCLUSION

It has been stated by financial experts that risk is the quantified uncertainty regarding the undesirable changes in the value of a financial commitment. Corporate sector units need to do proper risk identification, classify risks and develop the necessary technical and managerial expertise to manage foreign exchange risks. The review of literature has brought to light that the firms use

derivatives as a hedge rather than to speculate in the foreign exchange market. The greatest preference is for forward contract and future contracts. While there is considerable evidence that the financial officers of the various companies are well aware regarding their transaction, translation and economic exposure , non users of the derivatives cited confused perceptions of derivatives use and fear of high cost of derivatives as reason for not using derivatives.

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