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THE EXCHANGE RATE EXPOSURE OF INDIAN COMPANIES

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Abstract: *In this global era foreign exchange exposure is a matter of concern for majority of the firms involved in international trade. By doing proper risk measurement and management the companies will not only be able to minimise their risk but also it enabled the companies to obtain benefit from the profitable opportunities available in the market. The present paper discusses about the attitude, knowledge and general view of the financial experts working in various Indian companies regarding the three types of foreign exchange exposures. It is also analysed whether there is any difference in using hedging instruments to manage the currency risk/exposure by banking and non- banking enterprises.The present study is based on 50Indian corporateenterprisesselected from the list of Fortune India 500 companies in 2015 on the basis of their revenue. Data analysis has been done by using Descriptive analysis and ANOVA.Thestudy concludes that derivative products are used for risk management and major motive of the hedging instrument is to reduce volatility of the cash flows.*

Key Words: *Foreign Exchange Risk; Transaction Exposure; Translation Exposure; Operating Exposure; Hedging.*

JEL Classification: *G15, G31, F62*

1. INTRODUCTION

It is well known that international trade is possible only because globalization policy came into existence in 1991. Afterglobalization and liberalization policy the concept of foreign exchange exposure aroused because now maximum companies want to do trade at international level so they need international customers and they have to deal in foreign currency. But because of the changes in the demand and supply of the various currencies, fluctuations occur in exchange rates which lead to exchange rate risk for the exporters and importers. These exchange rate changes can be positive or negative for the concerned companies which can affect the financial performance of a company upto very large extent so the concept of this foreign exchange risk

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management came into existence. To survive in this competitive era it is compulsory for all the organisations to measure their foreign exchange exposure and then do proper management of unfavourable exposures to avoid losses.The firms having business transactions in various currencies of various countries are very prone to get their cash flows affected due to exchange rate fluctuations. The literature available on foreign exchange risk has grownrapidly more exactly after the financial crises occurred in 1990s. These crises have made itclear that exchange rates may have significant real economy effects.So many researches have been conducted by different researchers to conclude the reasons as well as importance to manage foreign exchange risk. (Christie and Marshall, 2003) risk management now a days has become the most important function of management because of the huge volatility in the currency market.

The main types of foreign exchange exposure are:

Transaction Exposure: Transaction exposure arises due to exchange rate changes between the transaction date and the subsequent settlement date, i.e. it is the gain or loss arising on conversion.This type of risk is primarily associated with imports and exports. If a company exports goods on credit basis then it has a figure for debtors in its accounts. The amount it will finally receive depends on the foreign exchange movement from the transaction date to the settlement date.As transaction risk has a potential impact on the cash flows of a company so maximum companies always do efforts to minimise its negative impact by using optimal hedging instruments.

Transaction Exposure = ***Rupee worth of accounts receivable (payable) when actual settlement is made minus rupee worth of account receivable (payable) when the trade*** **transaction is initiated.**

Operating Exposure – also called *economic exposure,* measures the change in the present value of the firm resulting from any change in expected future operating cash flows caused by an unexpected change in exchange rates.

Translation Exposure – also called *accounting exposure*, is the changes in owner's equity because of the need to "translate" financial statements of foreign subsidiaries into a single reporting currency for consolidated financial statements.

Accounting Exposure = Exposed Assets- Exposed Liabilities

2. LITERATURE REVIEW

Batten, Metlor and Wan (1993) analyzed exchange rate activities used in Australian companies. The researchers found that, out of the 72 selected firms covered in the study, 70% of the companies are bearing exchange rate exposures due to exchange rate fluctuations. **Jesswein *et al.*, (1995)** did their research on U.S. based firms and categorised the risk management instruments in three generations which include forward contract as first generation hedging instrument, Future contracts, options and swap instruments are known as second generation hedging tools and foreign exchange agreements, compounded options, range and synthetic products lie in the

category of third generation hedging instruments. They also concluded in their study that maximum time only first and second generation products are used to hedge the risk and the use of third generation instrument is very less. **Phillips (1995)**analused the usage of derivative instruments in all types of businesses and found that the entire organisation required proper risk management committees and should focus on the appropriate use of risk management tools and techniques. **Hentschel and Kothari (2000)** identified those firms which are using derivative products. They did comparison the risk exposure of derivative user firms with non-derivative user firms. They found very less difference in equity return volatility between derivative users andnon-derivative user firms. **Sathya Swaroop Debashish (2008)** concentrated on recent currency exposure management practices and hedging tools used by the selected indian companies. The research aimed to know the risk management techniques used by the companies to manage their risk/exposure.The study focused whether the concerned persons are aware about the risk management practices/ techniques or not. **Söhnke M. Bartram, Günter Dufey, and Michael R. Frenkel, (2009)** exploredall the three types of currency exposures. The researchers said that in the presence of deviations from parity conditions such as purchasing power parity and the international Fisher effect, non-financial corporations are confronted by risks stemming from the impact of unexpected exchange rate changes on the value of the firm. Nevertheless, professional firm-wide risk management does not yet seem to be in place at all non-financial institutions. Consequently, the need for implementing or improving risk management systems appears especially strong for firms outside the financial sector.

3. OBJECTIVES OF THE STUDY

1. To ascertain the level of importance assigned to foreign exchange risk as compared to other risks faced by the Indian Companies
2. To ascertain the foreign exchange exposure hedging instruments used in the selected Indian firms.
3. To know the attitudes, perceptions andconcerns of the selected Indian firms towards Foreign exchange risk.
4. To understand the level of awareness regardingderivative instruments among the firms.

4. METHODOLOGY OF THE STUDY

An exploratory survey, by way of extensive literature review of books, journals and other published data related to the focus of the study, as also concerned websites, was carried out to gather background information about the general nature of the research problem. This study is undertaken primarily to describe the foreign exchange risk management practices in the Indian corporate sector. An attempt is also made to examine the various exchange rate risk measurement techniques in banking and non-

banking units in India. In sync with the above mentioned objectives, the study intends to test the following null hypotheses:

1. There is no significant variance in the level of importance assigned to various types of risks.
2. There is no significant difference in various risk management practices used by banking and non-banking companies.

This research is descriptive cum exploratory. To obtain the above said objectives of this paper, researchers used judgement sampling technique and the sample size consists 50 Indian companies having ranking in Fortune India 500 list, presented by The Economic Times in 2015 which comprise 12 banks and 38 non-banking Indian companies. Primary data for the current research has been collected by using questionnaire method. Secondary date has been collected from the Capitaline-plus data base, journals, websites and from the annual reports available of the companies. Capitaline database is also used to find out the data of foreign currency inflows and outflows. The respondents to the questionnaire are financial executives of the selected companies with the responsibility of foreign exchange risk management.The responses are obtained on 5-point Likert's scale ranging from 1 to 5. Here, 1 means unimportant, 2 means less important, 3 means neutral, 4 means important and 5 means the maximum importance given to a parameter. To do analysis, Descriptive statistics is done and test ANOVA is also applied where ever needed by using MS-Excel and SPSS.

5. SURVEY RESPONSES AND ANALYSIS

As the first objective of this research is to find out the importance level assigned to exchange rate risk so the first question asked to the financial experts of the companies was aimed to indicate the importance level assigned to the various types of financial risks. Answers had been collected on the basis of 5-point Likert'sscale where 1 indicates no importance and 5 indicate the highest importance. The results of the survey as presented in tables 5.1 shows that 58 percent respondents consider exchange rate risk as the most important risk and 20 percent respondent consider it important. 38 percent respondents are considering interest rate risk as highly important and 54 percent consider it important for the Indian firms. Credit risk and commodity risk are

Table 5.1
Importance Assigned to various Types of Risks by Respondents
(Figures in Percentage)

	Importance Assigned to Various Types of Risk				
Types of Risk	*Not Important*	*Less Important*	*Neutral*	*Important*	*Highly Important*
Exchange Rate Risk	4	8	10	20	58
Interest Rate Risk	0	2	6	54	38
Equity Risk	16	21	50	10	3
Commodity Price Risk	12	6	32	32	18
Credit Risk	12	6	38	26	18

considered important by 18 percent respondents separately. Equity risk is ticked as highly important only by 3 percent respondents.

In order to make the analysis more precise, the descriptive statistics of the rank assigned are computed and the same are disclosed in table 5.2. It is obvious from the said table that interest rate risk obtains the highest mean score (4.28) and thus it is considered as the most important risk by the sample companies. Mean score obtained by exchange rate risk equals 4.18, so this is also considered as the second most important risk. Equity risk and credit risk obtain the third and fourth level of importance respectively.

Table 5.2
Descriptive Statistics about the Importance Assigned to various Types of Risk

Types of Risk	*N*	*Mean*	*Std. Deviation*
Exchange Rate Risk	50	4.18	1.22
Interest Rate Risk	50	4.28	0.67
Equity Risk	38	2.58	1.08
Commodity Risk	34	3.35	1.28
Credit Risk	34	3.32	1.2

To check the significance level for the 1st null hypothesis i.e. ***"there is no significant variance among the level of importance assigned to the various types of risk by the various companies"*** ANOVA is used where various types of risk are considered as independent variables and level of importance assigned to these risk by the respondents is being considered as dependent variable. The results of ANOVA test are revealed in table 5.3 which shows that at 5% level of significance, the variance in importance assigned to various types of risk by the various companies is found significant at 0.000 level.

Table 5.3
ANOVA
Results regarding Importance Assigned to Various Types of Risk

		Sum of Squares	*Df*	*Mean Square*	*F*	*Sig.*
Importance level	Between Groups	84.032	4	21.008	17.599	0
	Within Groups	239.929	201	1.194		
	Total	323.961	205			

In maximum studies it is discussed that the Indian companies are bearing the effect of exchange rate fluctuations. In order to study the awareness of these companies regarding foreign exchange exposure, a question was raised from the respondents, ***Do fluctuations in exchange rates have any effect on the company?*** The results of the survey as indicated in Table 5.4 shows that out of 50 companies, 46 companies (approximately 92%) accept that they are affected by the fluctuations in exchange rate. It means that most of the respondents are aware regarding the effect of exchange rate fluctuations on their company.

Table 5.4
Whether Fluctuations of Exchange Rate affect the Company

Companies	*Yes*	*No*	*Total*
	No. (% age)	*No. (% age)*	*No. (% age)*
Banking	12 (100)	0	12 (100)
Non-Banking	34 (89)	4 (11)	38 (100)
Total	46 (92)	4 (8)	50 (100)

The analysis has also been done across banks and the companies not related to banking sector which indicates that all the banks consider the effect of fluctuations in exchange rates. These fluctuations not only affect the revenues of the firm but also affect its assets and liabilities, its value in domestic and international market which would definitely affect its overall value. In case of non-banking companies 89 percent companies accept that exchange rate fluctuations affect the cash flows of the companies only 11percent respondents said that the company's financial positions are not affected by exchange rate changes. In the next question the respondents were asked to *tick the area of effect of exchange rate fluctuations on their companies.*Survey results are presented in Table 5.5 which shows that 61percent of the respondents said that exchange rate fluctuations have a valuable impact on the market value of the firm. 13 percent of the respondents are also conscious about the effect of exchange rate fluctuations on the competitive value of their firm in the domestic market and according to 11% respondents these fluctuations also affect the firm's competitive value in the international market. Present value of expected cash flows and the liabilities of the company have lower effect of exchange rate fluctuations.

Table 5.5
Effect of Exchange Rate Fluctuations

S. No.	*Area of Effect of Exchange Rate Fluctuations*	*Responses (% age)*
1	Competitive Value of a Firm in the Domestic Market	13
2	Competitive Value of a Firm in the International Market	11
3	Present Value of Expected cash flows	2
4	Market Value of a Firm	61
5	Assets of the Company	11
6	Liabilities of the Company	2

The speed of international business activities has magnified the impact of variable exchange rates on every business. Companies face different types of foreign exchange exposures such as transaction exposure, economic exposure and translation exposure. To know the type of foreign exchange exposure which the Indian companies face, the respondents were asked to *tick the type of exposure which the Indian companies are facing.* Results obtained for this question as presented in table 5.6 shows that maximum Indian firm (80%) have all of the three types of foreign exchange exposures.

Table 5.6
Level of Foreign Exchange Exposure

S. No.	*Types of Exposures*	*Non-Banking Companies No. (% age)*	*Banking Companies No. (% age)*	*Total No. (% age)*
1	Both Transaction & Economic Exposures	10 (20)	0 (0)	10 (20)
2	All Three Exposures	28 (56)	12 (24)	40 (80)
3	No Exposure	0	0	0 (0)
	Total	38 (76)	12 (24)	50 (100)

A comparison has also been made on the basis of banking and non- banking companies. The result shows that in today's era maximum Indian banks have set up their branches in abroad also, thus not even a single bank is there which is not suffering currency exposure.In case of the companies other than the banks (20 percent), only those companies are not facing currency exposures which have their all transactions denominated in domestic currency only. To know the behavior of the Indian firms regarding the risk management, respondents were asked to *tick the type of foreign exchange exposure, which you manage*. Responses of the study are highlighted in table 5.7 which revealed that 80 percent of the Indian firmshave all the three types of exposuresbut regarding the management of exposure only 40 percent firms are doing proper risk management activity to managing these three types of exposures. It has been investigated that transaction exposure is managed by the most of the companies (approx. 34%). 22 percent companies are doing efforts to manage both transaction and translation exposure. only 4 percent Indian firms are managing their economic exposure.

Table 5.7
Foreign Exchange Exposure Managed by the Companies

S. No.	*Kind of Currency Exposure*	*Non-Bank Companies No. (% age)*	*Banks No. (% age)*	*Total No. (% age)*
1	Only Transaction Exposure	17 (34)	0	17 (34)
2	Only Economic Exposure	2 (4)	0	2 (4)
3	Both Transaction and translation Exposure	11 (22)	0	11 (22)
4	All Three Exposures	8 (16)	12 (24)	20 (40)
	Total	38 (76)	12 (24)	50 (100)

Now after exploring all the three types of exposures, the researchers want to find out the various important hedging techniques and practices used by the selected companies to manage their *foreign exchange exposure.* The results of the respondents are depicted in Table 5.8 validate that companies are actively using various hedging strategies for the management of all three types of foreign exchange exposure. Forward contracts are most popular among companies as long term as well as short term hedging instrument. 96 percent companies hedge their foreign exchange exposure by using

forward contracts. Future contracts are also used by 96 percent of the respondent companies. Currency options are also being used very frequently by 86 percent of the companies. Though there is no restriction on the tenure and size of the swap yet due to complexity, use of swap is not so admired as the use of forward contracts. 88 percent companies minimize their risk by swap transactions.

Table 5.8
Hedging Techniques to Manage Transaction Exposure

S. No.	*Techniques*	*Non-Banking Companies*	*Banking Companies*	*Total*	*(% age) Out of Total 50 Companies*
1	Forward	37	11	48	96
2	Currency Future	36	12	48	96
3	Currency Swap	35	9	44	88
4	Currency Option	33	10	43	86
5	Matching	22	10	32	64
6	Multilateral Netting	22	8	30	60
7	Leads & Lags	12	4	16	32
8	Invoicing & Currency Clauses	23	6	29	58
9	Money Market Hedging	24	8	32	64
10	Currency Diversification	15	5	20	40
11	Risk Sharing	8	2	10	20

Note: The percentages are derived from total sample i.e. 50.

Second hypothesis framed for the present research i.e. *"There is no significant difference in the various hedging techniques used by the Banking and Non-Banking companies"* is analysed with the help of ANOVA technique where various hedging techniques are considered as independent variable and the importance assigned to these techniques by various companies is considered as dependent variable. The results of ANOVA are revealed in Table 5.9 which shows that at 5 percent level of significance, the variance in importance assigned to various risk management techniques is significant at 0.000 levels. Therefore the null hypothesis is rejected and alternative hypothesis that there is significant variance in importance assigned to various hedging techniques by the companies is accepted. It means that different companies use and assign different level of importance to various hedging techniques for their risk management. It is also suggested that the firms should usemore than one technique to hedge foreign exchange exposure effectively.

Table 5.9
ANOVA
Importance Assigned to Various Hedging Techniques of Foreign Exchange Risk

	Sum of Squares	*Df*	*Mean Square*	*F*	*Sig.*
Between Groups	242.724	10	24.272	13.494	0
Within Groups	642.165	357	1.799		
Total	884.889	367			

6. CONCLUSION

It is the Globalisation policy which has given a tremendous growth to the quantum of cross border transactions denominated in various currencies and due to the fluctuations in the currencies it is very risky for the companies to perform their operations in foreignexchange transactions. This paper made an attempt to study the general framework of foreign exchange exposure management strategies in the selected Indian firms. Regarding the extent of risk, the results reveal that exchange rate risk (with the mean score - 4.18) is being considered as very important risk by banking and non-banking units of India. Regarding the impact of exchange rate fluctuations, it is found that 92 percent of the companies are aware regarding the effect of exchange rate fluctuations and they consider the impact of these fluctuations on the assets and liabilities of their company. Maximum selected firms (80%) havewhollythree types of foreign exchange exposures. Although 80 percent of the selected firmsare affected by the currency exposures but only 40 percent of the firms are doing efforts to manage all these three exposures. The firms which are not using derivatives as a risk management tool in their company have confused perception about the usage of derivative instruments, they consider it highly cost product and they also have some technical and administrative constraint in using of derivative instruments as hedging tools. It has been also investigated that maximum firms have their concern for the management of their transaction exposure. 22 percent firms are targeting to manage both i.e.transaction and translation exposure and merely 4 percent firms are managing their economic exposure.Simple Forward contract is preferred as an important hedging instrument by the maximum enterprises. As per the respondent's view 96 percent Indian firmsuse forward contracts to manage their currency exposure. Swaps and Cross Currency Options are used 86 percent companies. Though there is no restriction on the tenure and size of the swap yet due to complexity, use of swap is not so admired. 88 percent companies minimize their risk with the help of swap.

RESEARCH IMPLICATION/ VALUE OF THE STUDY

The present research work is an effort done by the researchers to analyse the viewpoint of financial experts on international transactions denominated in international currencies. With the help of this paper tools and techniques available to hedge the currency risk are examined. The financial experts and CFOs of various companies will be benefited by this study in identifying and addressing foreign exchange exposurefor their companies and can establishing support and control mechanism to overcome the impact of all types of risk. The study shall beneficial to the top management to set the courses for risk management team in terms of its policies and objectives. The study will also be of immense use for the other stakeholders in the companies such as shareholders, employees and credit suppliers. The findings shall also be relevance to the investment community for their investment portfolio, besides the corporate sector in general. The study is also expected to be of immense interest and use for students, academicians and researchers, as it would open new vistas of further research.

7. LIMITATIONS AND FUTURE AREAS OF RESEARCH

A survey with questionnaire is always subject to respondents' biasness. The respondents answer can vary based on their own experience. In the present study the results are based on the opinions of only 50 respondents. As there are more than 4500 listed companies in India, it seems inappropriate to generalize the results based on a sample of 50 companies only. Hence the future researchers must learn from this limitation and should make efforts for large size samples.

The present study discussed about foreign exchange exposure which is only one part of financial risk.The study has excluded some important aspects such as measurement and management of interest rate risk, credit risk and equity risk. Therefore, it is suggested that the researchers in future must consider these aspects too.

The participants in the survey were seen reluctant to respond because of some security reasons. The participants were also not willing to give the true estimation of their future cash inflows and outflows.

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