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ON

A STUDY ON
RISKS FROM FOREIGN CURRENCY EXPOSURE
OF
SMALL & MEDIUM ENTERPRISES (SMES)
AND
THEIR IMPACT ON BANKS

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Abstract

SMEs and small corporates are more vulnerable to foreign currency risks than their counterpart large, established and multinationals firms, inter-alia due to weaker capital base and tighter budgets. Over the years, Indian SMEs/ corporates have found themselves unable in dealing effectively with risks arising from currency fluctuations which not only impact their balance sheet but also jeopardise their commercial strategy for international trading activities.

This study explores various factors, variables theoretical concepts and empirical applicability of FCE Risks of SMEs, both from bankers as well as SMEs/ corporates point of view. This study also discusses the impact of unhedged exposure of SMEs/ corporates whose undesired efforts pose significant risks not only to themselves but to their banks and overall financial system also.

Keywords
Forex, SME, Corporate, Currency, Risk, Volatility, Exchange Rate, Derivatives, Hedging.

Executive Summary

Background of the study	Effects of adverse foreign exchange movements pose significant risks to businesses in import and export markets. When rupee appreciates exporters get adversely affected as their forex revenue takes a hit and importers get benefitted since a strong currency brings down their import cost. On the other hand, when INR depreciates, forex revenue for exporters shoots up but the expenses go up for importers. Impact of foreign exchange volatility, however, varies from sector to sector. Normally sectors having higher forex earnings viz. IT & IT services, pharmaceuticals, automobiles etc. get hurt by a strong rupee and benefitted from a weak rupee. Whereas, import-oriented sectors such as oil and gas, metals, etc., come under pressure when rupee depreciates. Most of the previous research studies on the topic of Risks from Foreign Currency Exposure (FCE) have remained concentrated on larger firms (Choi,2012; Kula, 2005; McCarthy, 1999). Whereas SMEs/ small corporates are more vulnerable to Foreign Currency Exposure (FCE) risk than their counterpart large entities. In this research, we study major components of FCE of SMEs/ small corporates. We use existing literature on larger enterprises, organisations as a basis for the development of a thorough understanding of a practical strategy with respect to the management of FCE risks by SMEs/ small corporates. We focus our attention towards understanding the reasons FCE risks, how SMEs identify, assess and measure these, what strategies they deploy to mitigate etc.
Areas covered	Primarily study covers the issues related to Service Delivery

in the Study	mechanism of the Banks, Identification, awareness, assessment, measurement and management of FCE Risks from Exporters'/ importers' point of view, strategies used to manage the exposure, risks attached with various hedging strategies, techniques, products, risks attached with UFCE of Corporates/ SMEs and its impact on Banks etc. The major aspects covered in the study are: • How do SMEs perceive risks arising from their FCE? • How do they identify, assess and measure their FCE Risks? • How the Banks perceive FCE Risks of their borrowers? • What are the risks from bankers' point of view in extending credit facilities to exporters/ importers? • What are the Bankers' risks in extending Pre-Shipment Finance and Post-Shipment Finance? • What are the major tools available to them to reduce their FCE risks and how do they use these? • What factors influence SMEs/ corporates in selecting hedging strategies? • What are the Risks attached with hedging instruments/ derivatives products allowed by the Banks to their SME/ corporates borrowers? • Why SMEs/corporates do not prefer to hedge their FCE? • What are the Risks from Unhedged Foreign Currency Exposure (UFCE) of Corporates/ SMEs? • What are the Impact of UFCE of SMEs/ Corporates borrowers etc. on their Banks.
Research Objectives	In the backdrop of major research questions, we undertake this study with the following specific objectives: • To identify the Causes/ Background of the Risks arising

	from FCE of SMEs/ corporates. • To understand the need, importance and implications of FCE risks management. • To examine the Products/ Techniques available for managing FCE risks. • To Identify the measures of FCE Risks Assessment. • To understand the constraints, problems, challenges in Assessment and Measurement of FCE Risks. • To examine and understand the importance of Internal and External Hedging Strategies of SMEs/ small corporates for managing FCE Risks. • To identify the Reasons behind UFCE of SMEs/ small corporates and their impact on Banks.
Chapterisation	We present important aspects of the study in sequentially arranged six chapters, which are summarised hereunder: *Chapter 1: Introduction –* The first chapter provides background of the study and sets forth the parameters of the entire study, highlights the problem statement, justification, research questions, objectives set and the scope of the study. *Chapter 2: Literature Review –* This chapter outlines research gaps in the literature on foreign currency risk management of SMEs and then develops the rationale for this thesis. The chapter reviews foreign currency exposure risk identification, assessment, management aspects from the point of view of SMEs/ corporates and Bankers/ Financial Experts. The chapter also discusses determinants of hedging. *Chapter 3: Theoretical Concepts and Practical Implications of FCE*

	Risks – The chapter traces various theoretical as well as empirical aspects of foreign Currency Risk Management. It covers identification, assessment, measurement and management of FCE Risks. The discuss assessment and management of FCE risks both from SMEs/ corporates' points of view as well as of Banks' point of view. The chapter also covers various faces of hedging and un hedging by SMEs/ Corporates and their impact on Banks. Discussions of all these aspects provide a background of the study. *Chapter 4: Quantitative Research Methodology* – This chapter elucidates the research methodology, hypotheses framed, data collection methods and statistical techniques used for the analysis. *Chapter 5: Quantitative Analysis-* This chapter diagnoses empirically questionnaire-based survey. The analysis is divided in two sections: *Section-1* - Perception of SMEs/ Corporates causes for Risks from FCE, their impact and suggestions etc. *Section-2* - Perception of Bankers/ Financial Experts on causes for Risks from FCE, their impact and suggestions etc. *Chapter 6: Conclusion and implication* – This chapter concludes the entire study, presents a brief summary and major findings of the study with overall conclusions and also offer some effective suggestions for management of Risks from Foreign Currency Exposure of SMEs/ Corporates. In addition, limitations of the study are acknowledged and avenues for future research are suggested. We present major features of few important export/ import

	credit facilities, alongwith various regulatory, internal concerns, risks and requirements attached thereto.
Excerpts of major chapters are presented in the following paras:	
Review of Literature	We review more than 250 research papers, studies, working papers, articles for the study. In our literature review we explore several aspects of foreign exchange risk exposure and cover topics/areas related to background of SMEs engaged in forex activities, their growing role, changing parameters, studies related to their identification, assessment and measurement of FCE risks, transactional risk, studies on questionnaires-based survey approach on FCE, hedging strategies etc. We review as to how the firms get exposed to foreign exchange risk and how that impacts their business. We found that most of the authors agree that foreign currency exposure poses challenges both for large and small entities engaged in international business activities. While large firms walk over the tide by putting suitable hedging strategies in place, SMEs find themselves unable to make rounds around the FCE risks and protect their interests. Different authors indicate that most firms involved in international trade have some kind of foreign exchange exposure risk, with transactional risk being the most common in small and medium enterprises. The authors endorse that firms need to have strategies in place that involve policy formation and evaluation in order to control their foreign exchange risk to meet their risk-management objectives. During our literature review we rarely come across with any research on identification, assessment and management of

	Foreign Currency Exposure Risks of SMEs/ small entities. We observe that most of the studies, we come across, concentrate on foreign currency exposure of large entities, corporates, MNCs and fall short in providing in depth understanding of FCE risks of SMEs/ small corporates. We also do not find any study/ research on FCE risks of SMEs/ small corporates from bankers' point of view. Keeping in view the limitations of the literature available on management of risks from forex risk management by SMEs, we offer in our study exploratory insights into the strategies which SMEs/ small corporates use for managing their foreign currency exposure risks.
Brief overview of theoretical concepts, regulatory aspects etc.	With a view to provide background for the entire study, we discuss in our Chapter 3, a brief overview of theoretical concepts, regulatory aspects and internal concerns and risks of FCE of SMEs/ corporates from the point of view of both SMEs/ corporates borrowers and bankers.
What is Foreign Currency Exposure	Theoretically, corporates are exposed to currency risks on account of their foreign currency exposure in three different categories: economic exposure, transaction exposure, and translation exposure (Moffett et al 2009 ; Grath, 2004 ; Miller 1998). Transactional risk or exposure risk arise from cash flow risk, Translational risk, results from the consolidation of group and subsidiary balance sheets, and Economic risk emanates from the change in the present value of future operating cash flows as a result of unexpected changes in exchange rates. FCE Risks of the entities crop up on account of their engagement in imports or exports business activities, purchasing or selling of

	products with prices stated in foreign currency, incurring various costs/ capital expenditure, denominated in foreign currency, generating major portion of incomes, revenue from exports, royalties, interest, dividends etc. being in foreign currencies, borrowing or lending funds repayable in foreign currencies and valuing business operations or subsidiaries in foreign currencies etc.
Severity of FCE Risks	The magnitude of FCE risks depend upon varied cash flows, exchange rates and interest rates movements. FCE risks increase or decrease due to interest rate fluctuations, implementation of measures like QEs, Greece impact etc. in international markets, fluctuations in parity value of INR in international currency markets, volatility in clients' domestic currency, attitude of individual overseas customers, time lag between first down payment and last payment, strategies adopted by the corporates/ SMEs for selecting hedging instruments, Swap, Options, Forward etc. and RBI's intervention in the forex market which increases cost of hedging. When RBI intervenes in both spot and forward currency markets to stabilize the INR then either rupee depreciates or appreciates. In both the situations hedging cost increases.
Impact of FCE risks	Usually large and multinational corporates remain aware of various currency risks and initiate preventive measures in time and deploy suitable hedging techniques for mitigation. On the contrary, most of the SMEs fail to perceive foreign currency risks in time and face volatility in cash flows.

Risks from Credit facilities extended by Bankers to Exporters/ Importers

In this segment, we present an overview of major credit facilities extended by Indian Banks to exporters/ importers. We discuss major features, risks aspects of pre-

shipment finance, post-shipment finance, buyers' credit, lines of credit, bank guarantees etc. We cover the major aspects of management of Foreign Currency Exposure Risks such as identification of various types of foreign currency exchange rate risks, measurement of foreign currency exchange rate risks, decision for hedging or not hedging, in case of hedging-creating offsetting position through derivatives, measurement hedging ratio and deciding acceptable level of risk ,initiating suitable steps with respect to, inter-alia, future movement of exchange rates to manage cash flows etc..

We further discuss FCE risks hedging strategies, techniques both Internal (Operational Hedging Techniques) and External (Financial Hedging Techniques). We cover in this segment assessment, challenges, and risks of funding requirements for financial hedging etc. We cover the concepts behind Credit Exposure Limit (CEL), Contracted Exposures, Probable Exposures including various instruments of financial hedging - Forex Derivatives. Our findings reveal that the most popular and preferably used derivative products are forward contracts and options contracts. We also throw light on issues related to legal, accounting, compliance, tax, volatility, familiarity with the products etc. We find in our analysis that SMEs select hedging instruments on the basis of their availability, flexibility and cost. Going ahead in the segment, we also present major features and risk aspects of Covered Options.

Forwards or Options	During our questionnaire data collection and conducting interviews with the targeted group participants, observations were made time and again as between the two, Forwards and Options, which is the better derivative product for SMEs and small corporates. Based on the feedback gathered from the targeted group participants, we cover this aspect in our study and find that experts are of the view that in a trending market, when the currency is either falling or rising, the exporter should hedge through forward contract. Whereas, Options can be used, they reveal when the market is trading sideways and / or trend is

	not clear. They also share that when the market is range-bound, volatility will be low and at that time, hedging through options can be done as then the option premium would be low.
Exchange Traded Instruments	This analysis is followed by the advantages/ disadvantages of exchange traded instruments futures contracts especially currency futures contracts. We cover here various risks from the point of view banks such as cash flow risk, leverage, interest rate risk, liquidity risk, settlement and delivery risk etc.. With regard to Exchange Traded Instruments (ETIs), we find that experts suggest for hedging of short-term forex exposure by the small business entities with less forex exposure through exchange traded derivatives contracts as their pricings etc. are transparent on the exchanges. Many participants favour use of the instruments like swaps, principal only swap and interest rate swaps for covering long-term liabilities, like loans etc.
Futures and Forwards	We also analyse the observations of the participants on futures and forwards. Most of the participants agree that the futures contracts are used by the traders by directly participating in a move up or down market, without having any physical commodity. They hold their positions for various lengths of time, ranging from day trading to longer term holdings of weeks to months or longer. In this segment we cover difference between forward contracts and futures contracts traded on exchange, regulated, standardized, having an exchange-specified contract unit, expiration, tick size, notional value, counterparty risk etc..
Swaps	We then move on to the Swaps. We observe that in absence of active market for domestic currency INR, swap arrangements presently are not very popular among the SMEs. Experts share that the success of swap transactions depends on the rate of

	interest of loans availed in local currencies. Owing to higher rate of interest on loans being availed by SMEs in INR and undertaking swaps transactions against these with any hard currency may affect their performance and profitability.
Interest Rate Options	We also focus on the status of Interest Rate Options. Since through IROs, SMEs/ corporates may manage their interest rate risk better by speculating on interest rates. Although IROs have been permitted both on exchanges authorized by SEBI and OTC these are still not very much fancy among the SMEs.
Exchange Traded Instrument (ETI) Vs Over The Counter (OTC)	We move on with our discussions on the difference between Exchange Traded Instruments (ETIs) Vs Over The Counter (OTC) Products. We cover the factors and limitation related to OTC and ETIs have limitations. Expert participants share that in view of the inter- related factors like interest rates, expiry/ maturity of the instrument, price or level of underlying of derivative component, volatility of the underlying asset etc. trading at OTC is better suited to SMEs/ small corporates etc.

Perception on why corporates avoid hedging and why they should hedge

We move on to one of the important point of our study as to why corporates avoid hedging and why they should hedge. We find that many SMEs/ corporates undertake their hedges as their "market position". They think that taking a hedge, such as a forward contract, is the same as taking a trading position in the market which can be kept on changing as and when required. This is also supplemented by their tendency to cancel and rebook forward contracts, albeit subject to compliance of RBI guidelines. These practices tend to give their hedging flavour as of a trading position. This is supplemented by their lack of visibility and poor or no risk culture when they think that implementing a hedging strategy may have counter-effective results and hence maintain a status quo.

We observe and find that many actors prevent Indian corporates from hedging. For

instance:

- Cost of Hedging,
- Need for Hedging Cost Budget,
- High Cost of Hedging,
- Zero Cost Structures,
- Stable rupee,
- Natural hedge etc.

Unhedging by Corporates- Impact on Banks

Banks face, on account of their exposure with their borrowal clients, both counterparty credit risk and market risk. Though usually banks cover their clients' trades by hedging back-to-back in inter-bank market, they, however, suffer from the perils of credit risks. FCE losses of the SMEs/ corporates affect not their repaying capacity but also quality of assets of their lending banks.

Sometimes, SMEs/ Corporates strategically do not hedge their foreign currency exposures and choose to bear the risk of losses in case of negative exchange rate movements. But their Unhedged Foreign Currency Exposures (UFCEs) may entail risk not only to themselves but to their financing bankers also. Besides, banks are required to make incremental provisioning every quarter and meet specific capital requirements on UFCE of their borrowal clients whose estimated forex losses exceeds more than 15% of their (borrowers) annual EBITDA.

We cover in this segment different aspect of UFCE viz challenges attached with calculation of likely loss, data collection from Corporates/ SMEs, monitoring of UFCE, challenges attached with SMEs/ corporates' disliking for resorting to hedging etc.

Up-Selling or Mis-selling of Structured Products

During the course of collecting data and conducting interviews with the respondent participants, many participants expressed their concerns over selling of structured

products by the banks. They share that by twisting various guidelines, norms, banks sell leveraged products to their clients which they use for speculative purposes. At times this results in a situation where a corporate has taken currency bets, but adverse movements in the dollar and other currencies exposes him to an amount which may be twice or thrice his export income.

Customer appropriateness and suitability	We also cover in this segment the guidelines related to customer appropriateness and suitability whereby RBI specifies that "market-makers should undertake derivative transactions, particularly with users with a sense of responsibility and circumspection that would avoid, among other things, mis-selling. In the context we also cover the major features of Simplified hedging facility whereby entities can hedge exchange rate risk to hedge exchange rate risk on transactions, contracted or anticipated, permissible under Foreign Exchange Management Act (FEMA). With the implementation of all these steps, including the Legal Entity Identifier (LEI) system in OTC, experts believe that banks may decide whether or not a derivative product in question is suitable and appropriate for the user. LEI code is also expected to improve the quality and accuracy of financial data systems for better risk management.
Research methodology and design	After presenting the conceptual background on Risks from FCEs and their impact, we discuss in next chapter different aspects of research methodology, selection of sample, designing of questionnaires, data collection, validation, its statistical analysis etc. . With a view to have a better understanding of various phases of practices, experiences, interpretations, approaches of the exporting/ importing Indian Corporates/ SMEs in identifying and managing their FCE Risks and also how their banks get affected from FCE risks, we adopt exploratory qualitative study

	method for our research. We target our SMEs/ small corporates population, engaged in international/ overseas trading activities and registered with the export and import councils, industry associations, trade councils etc. and enjoying credit facilities/ borrowings from a SCB. Another parameter we adopt for population identification as suggested by FICCI, categorisation of SMEs on the basis of their turnover. Since most of the time banks assess credit facilities to the SMEs based on their, inter-alia, turnover, we also select those enterprises which enjoy a specific level of turnover.
Sampling approach	Keeping in view the research objectives as well as the time and resource constraints, we adopt purposive and convenience sampling approach. For selecting sample population of SMEs/ FEs/ Bankers we restrict our scope upto those SMEs/ corporates only which carry FCE in their books of accounts but either that remains unhedged or hedged partially. Since the sample population belonged to different sector/ industry, geographically located, homogenous sub-population for this study was ensured. So conventional sampling method was used for selecting the participants. Mangers/ senior authorities from SMEs/ Corporates across various industry sectors, of different sizes within the SME category were selected for participation. Financial Experts were selected from the league of professionals like chartered accountants, MBAs, senior finance executives/ accountants, working with the respective entities/ firms for long. Bank officials were selected from PSBs and PVSBs, out of the universe of SCBs, as these two categories of banks suffer most impact of FCE Risks from their borrowal clients. Sampling was based on literature review, interaction with the authorities from

	industry, corporates/ SMEs, Finance Experts, Banking experts and other knowledgeable persons etc.
Sample size	Sample size was determined accordingly using purposive technique and 146 participants, comprising of 86 officials from corporates/ SMEs and 60 from Banking and Finance sector (comprising of 36 officials from SCBs and 24 professionals from Finance sector) were selected purposefully for responding questionnaire.
Primary data collection	Primary data was collected in the backdrop of research questions sent to SMEs/ corporates. It was ensured that the data obtained contain details about the respondent firms instead individuals representing entity/ firm, organisation. It was also ensured that the respondents met the criteria for being classified as SMEs. Data was collected through two structured questionnaire and unstructured interviews. Questionnaires consisted mostly of closed-ended questions and a few open-ended questions. The contents and items for the questionnaires were conceptualised on the basis of research objectives and after having discussions, meetings with the corporates/ SMEs, finance experts, bank officials etc. In the questionnaires, questions on various variables related to FCE risks awareness, assessment, identification, measurement, management - hedging techniques, internal hedging strategies, external hedging strategies, risks from unhedging, impact on banks on unhedging etc. were included to achieve the research objectives.
Validation and reliability	To ensure the clarity, relevancy and appropriateness, developed questionnaires were tested for their validity and reliability. Content Validity was ensured by extensive literature survey and using items which were validated in previous studies, interaction

	with banking experts, and experience of the researcher. Reliability of the questionnaire was carried out by using a pilot test. The pilot study was conducted to pre-test the research instrument to reveal any gaps, inconsistencies, or contradictions, to seek the answer to the question—does the questionnaire consistently measure whatever it measures. Besides questionnaires, information was also gathered through unstructured interview with the owners/ directors/ senior officials/ managers in SMEs/ small corporates, financial experts, bank officials. Cronbach's alpha was used in assessing the reliability of tests in the segments where Likert scales were used.
Questionnaires administered	In all 250 questionnaires, 150 questionnaires were administered to SMEs/ corporates and 100 questionnaires were sent to bank officials, chartered accountants, forex treasury dealers with the banks and industry, finance controllers and other professionals looking after the finance and accounts work in their SMEs/ small corporates. Out of 150 questionnaires served to SMEs/ corporates, only 108 responded. Out of which 22 were found incomplete and only 86 were found to be at acceptable level. The response rate was 58.40%. With regard to 100 questionnaires served to FEs/ bankers, only 84 responded. Out of which 24 were found incomplete and only 60 were found at acceptable level. The response rate was 60%. Sixteen major hypotheses were set to gather perception of SMEs/ Corporates (9 hypotheses) and of Bankers/ Finance Experts (7 hypotheses) on Risks from FCE, their impact and suggestions etc.
Primary data	Primary data was analysed using descriptive statistical analysis.

Analysis	Frequency analysis and comparisons were done through Mann-Whitney U test, based on probability values of p>0.05. Data analysis was undertaken through SPSS software package and MS Office spreadsheet for arriving total scores, means and percentages etc. Spreadsheets were also used to come up with appropriate charts and tables for data representation. Chi Square ($\chi 2$ test) was carried out in order to know about the differences observed among the effect of different variables and FCE Risks. Kendall's coefficient of concordance was conducted to assess the degree of association of samples. Anova analysis and F-test was used to know the significant difference between experience/role/department of the bank officials and their perception towards the causes and impact of FCE Risks. Mann-Whitney U test was computed to test the mean differences regarding the causes and impact of FCE Risks, particularly on banks.
Secondary data	Secondary data was collected from the websites of MSME Department GoI, FICCI, ASOCHEM, RBI and CCIL on the population of SMEs and SCBs. Data was also obtained from various published sources such as RBI Report on Trends and Progress of Banking, Annual Reports of Banks, RBI Reports on Statistical Tables Relating to Banks of India, RBI Monthly Bulletin, Report on Currency and Finance, Hand Book of Indian Economy and other similar magazines, articles, research papers etc. for arriving valid decisions in respect of objectives.

Responses of SMEs/ Corporates on causes for Risks from FCE

A brief overview of responses of SMEs/ Corporates and Bankers/ FEs are furnished in the following paras:

Volatility in	Responses results indicated that 81.67% of SMEs/ Corporates

Currency fluctuations	(respondents) agreed that Volatility in Currency fluctuations is the prime cause of FCE Risks emerging from Business & Economic Activities. Results corroborated with the experts' opinion which convey that given the difficulty of predicting the direction of foreign exchange movements, forex market fluctuations tend to have drastic consequences for the financial performance of any entity (Dong et al.,2014).
Volatility in Clients' domestic currency	Results indicated that 78.33% of respondents agreed that volatility in clients' domestic currency is one of the causes of FCE Risks emerging from Business & Economic Activities**.** Goldberg et al., (2007) also suggest that firms should hold a view on the foreign currencies of countries where they have interests for assessing the future performance of their base currency. This will enable them to manage their FCE by forecasting future cash flow. Assessing volatility in clients' domestic currency will also assist them in selection of hedging strategies i.e. deploying leading or lagging or going for OTC products / Exchange traded instruments.
Change in Attitude of individual overseas customers	The questionnaires results indicated that 53.33% of respondents agreed that change in attitude of individual overseas customers is a reason for FCE Risks emerging from Business & Economic Activities. Experts also put forth the opine that the firms actively engaged in international business activities and whose major portion of sales revenue is dominated in foreign currencies, find themselves at risk of being in unfavourable contracts that are detrimental to them, particularly at the time when they face attitudinal changes in their customers' behaviour on one pretext or the other.
Interest rate	The results indicated that 60% of respondents agreed that

fluctuations	Interest rate fluctuations is a reason for FCE Risks emerging from Business & Economic Activities. Most of the participant respondents contend adverse interest rate fluctuations impact currency market and price fluctuate, most of the time adversely. Findings from previous studies also reveal that in comparison to their counterpart large firms, SMEs and small corporates get more affected with the interest rate fluctuations, whether occurred in fiscal market or made by their lenders/ bankers because of their weaker capital base and tighter budgets than their counterpart larger firms.
Unawareness about the problems related with currency exposure	Response to this question was sought to uncover whether SMEs are aware of the risks posed to their businesses by their exposure to foreign exchange or not. Respondents result indicated that most of the respondent enterprises are, at least partial, ignorant and unfamiliar with various FCE risk management tools and techniques. They do not consider the problem with that seriousness as it deserves. 53.33% of respondents agreed that unawareness about the problems related currency exposure is one of the reasons of FCE Risks emerging from Business & Economic Activities.
Failure in identifying various Types of Exchange Rate Risks	Goldberg et al. (2007) share that if the firms do not exercise oversight and control over their foreign exchange risk management practices, they are likely to suffer substantial losses. Not only they are required to understand forex risk in general, but also to realize how forex fluctuations can impact their business. Experts opine that knowledge about forex risk management is essential for undertaking effective hedging strategies. Results also indicated that 58.33% of respondents agreed that failure in identifying various types of exchange rate

	risks is one of the causes of FCE Risks emerging from Business & Economic Activities.
Inadequate understanding of various hedging products, especially derivatives products	The questionnaire results indicated that 73.67% of respondents agreed that inadequate understanding of various hedging products, especially derivatives product is one of the causes of FCE Risks emerging from Business & Economic Activities. Experts point out that lack of familiarity with derivative products deter SMEs/ corporates in managing risk effectively. They think that derivatives are complex to understand spite that most derivative instruments are constructed from two basic instruments, forwards and options, which does not require any rocket science knowledge to understand.
Poor Cash flow position of the firm and ability to withstand currency fluctuations	Goldberg et al., (2007) apprise that frequent fluctuations in currency make it impossible for SMEs/ Corporates to predict their cash flows for meeting various present and future revenue and capital expenditure. The results indicated that 78.33% of respondents agreed that poor cash flow position of the firm and ability to withstand currency fluctuations is one of the causes of FCE Risks emerging from Business & Economic Activities.
User-friendly hedging products/ mechanism	The results indicated that 65% of respondents agreed that non-availability of proper user-friendly hedging products/ mechanism is one of the causes of FCE Risks emerging from Business & Economic Activities.
Perception of SMEs/ Corporates on Assessment of FCE Risks	
Experts put forth the need and necessity of timely assessment of FCE risks of portfolio. They confine that entities should compute effects of currency movements on their exposure, as and when need arises. However, most of the entities analyse their currency exposure at periodical frequencies. During deliberations, respondents and participants shared that it is very common to make periodical assessment of their	

currency exposure albeit frequency can differ. Respondents shared that majority of the firms from IT/ Software and Handicrafts categories make weekly assessment of their currency exposure. Whereas entities from mining, gems and jewellery sector assess their portfolio at frequent time intervals. Respondents shared that majority of SMEs/ corporates assess the impact of currency fluctuations on their profit margin as and when required.

Perception of SMEs/ Corporates on Causes for Assessment of FCE Risks

In addition to knowing the causes of Assessment (When) of FCE Risks which were ranked by the SMEs/ Corporates, an attempt was also made to have the perception of the respondents towards the causes of Assessment (Why) of FCE Risks. Eight major items were identified and two possible responses namely YES (1) and NO (2) were offered for the questions. A brief overview of the responses gathered are summed up hereunder:

Because of the pressure from Bankers	Responses were invited to gather as to when SMEs/ corporates assess their foreign currency exposure risks and results indicated that 71.67% of respondents agreed that assessment of FCE risks is made by the SMEs when there is pressure from their banks.
To avoid surprises	The results indicated that 63.33% of respondents agreed that SMEs/ corporates assess their currency exposure to avoid surprises in sudden or unexpected fluctuations in currency exposure.
To reduce fluctuations in income/ expenses in foreign currency	65% of respondents agreed that assessment of FCE risks is made by the SMEs/ corporates to reduce fluctuations in income/ expenses in foreign currency.
To exploit interest rate	Across the globe, most of the corporates follow strategy of borrowing (or shorting) a low interest currency and not

differentials between different currencies	borrowing (going long) in domestic currency at higher rate of interest. This is termed as "carry trade". Interest differentials alongwith parallel inflation differentials make carry trades or unhedged borrowings attractive and profitable. Responses were invited to gather as to when SMEs/ corporates assess their currency exposure of FCE Risks and results indicated that 55% of respondents agreed that assessment of FCE risks is done by the SMEs to exploit interest rate differentials between different currencies.
To reduce risk of financial distress thus cost of capital	The results indicated that 76.67% of respondents agreed that assessment of FCE risks is done by the SMEs to reduce risk of financial distress thus cost of capital.
To follow dominant practices in business sector	76.67% of respondents agreed that assessment of FCE risks is done by SMEs/ corporates to follow dominant practices in business sector.
To comply with accounting regulations- IFRS/ Ind IFRS	65% of respondents agreed that assessment of FCE risks is done by the SMEs to comply with accounting regulations- IFRS/ Ind IFRS. Respondent enterprises opine that earlier, risks were often not quantified and therefore not acted upon. With convergence to International Financial Reporting Standards (IFRS) based forward-looking fair value, full disclosure including value of a position covered by the hedge to the size of the position (hedge ratio) and hedge effectiveness is required.
To calculate likely loss based on currency volatility	71.67% of respondents agreed that assessment of FCE risks is done by the SMEs to calculate likely loss based on currency volatility.

Perception on Mitigation Measures for FCE Risks- Why SMEs/ Corporates do NOT Hedge	
A five-point Likert scale was used as a tool to assess the responses of the SMEs/ corporates on 'Why do you NOT Hedge'. The data was collected and analysed for observing perception of SMEs/ Corporates towards the reasons for not adopting hedging strategies, excerpts of which are as under:	
Low business volumes	Experts contend that SMEs must actively participate in the foreign exchange market to protect themselves from the volatile foreign exchange rates keeping aside turnover issue. 90.41% of the respondents agreed that the SMEs/ Corporates avoid adhering to hedging strategies for mitigating their FCE Risks due to low business volume.
Availability of natural hedge	91.78% agreed that the SMEs/ Corporates do not stuck to other financial or operational hedging strategies because of their availability of natural hedge. But experts share that natural hedging might be the most widely used internal technique to manage currency exposure but in case of regular/ daily volatility in the exchange rate, the concept of natural hedge becomes void. When the currency fluctuates wildly, there is not much of a comfort with natural hedge that comes at a future date., one expert shares.
Cost of hedging exceeds the expected benefits	94.52% agreed that the SMEs/ Corporates do not stuck to hedging strategies because cost of hedging exceeds their expected benefits. Dolde (1993) supplements that the small firms are more concerned about cost of risk management and due to cost of risk management, they ignore hedging through derivative instruments.
Unawareness about various	90.68% respondents agreed that SMEs/ Corporates do not adopt hedging strategies because of their unawareness about various

internal and external hedging strategies and techniques	internal and external hedging strategies and techniques.
Non-availability of trained staff	Experts contend that for effective management of forex risk, exporting SMEs need to develop their human resources by initiating suitable steps such as imparting training, developing skills in their organisations. 75.34% of the respondents agreed that SMEs/ Corporates do not adopt hedging strategies frequently due to non-availability of trained staff.
Absence of Hedging Cost Budget	84.11% agreed that the absence of Hedging Cost Budget is one of the reasons for non-adoption of hedging strategies by SMEs/ Corporates. Non-availability of a suitable hedging cost budget also acts as a detriment for companies to exit unprofitable hedges.
Limited Hedging Products available at OTC	72.05% agreed that availability of limited hedging products is a reason for non-adoption of hedging strategies by SMEs/ Corporates. In the context, experts also share that keeping in view the intricacies of derivatives products vis-à-vis skills available with the SMEs, PSU banks generally suggest only forward contracts to them. They do not encourage other derivative instruments like their counterpart private and foreign banks.
Structured products offered by the Banks	83.29% of the respondents agreed that the banks' offering structured / exotic products to SMEs/ Corporates is a reason for non-adoption of hedging strategies.
Difficulty in	Experts contend that valuation of derivatives contracts is not an

pricing and valuing derivatives	easy task and at time SMEs avoid undertaking hedging due to their unawareness of various accounting aspects relating to pricing and valuation of hedging products viz MTM of the portfolio, calculation of losses at prescribed time intervals etc. They find themselves constrained as to how and upto what extent they may follow ICAI guidelines on Indian AS 21 for hedge accounting. Percentage agreed and Top Two Boxes indicate that 86.31% agreed that the difficulty in pricing and valuing derivative is a reason for non-adoption of hedging strategies by SMEs/ Corporates.

Perception of SMEs/ Corporates towards Hedging Techniques

One of the objectives of the study was exploring the hedging strategies SMEs/ corporates choose for managing their FCE risks. Another objective of the study was to identify the reasons as between the two, internal hedging strategies (Operational Hedging) and external hedging strategies (Financial Hedging) , which type of hedging strategies, SMEs/ corporates prefer to deploy for managing their foreign currency exposure risks. Accordingly, questions were bifurcated between two categories and in each category, seven items were identified and two possible responses YES (1) and NO (2) for the questions were offered. Responses gathered were as following:

Entering into an agreement with the clients for sharing currency risk	61.64% of respondents agreed that entering into an agreement with the clients for sharing currency risk is good strategy for hedging FCE risks.
Matching foreign currency trade payments/ receipts against	Lamarre et al., (2008) advise that through this strategy firms explore to settle their foreign suppliers' debts from the proceeds of their foreign buyers thus mitigating the burden and risk of purchasing foreign currency for payment at a later stage. supported by 61.64% of respondents supported that the strategy

receipts/ payments in the same foreign currency	of matching foreign currency trade payments/ receipts against receipts/ payments in the same foreign currency is as a feasible and practical option for mitigating FCE risks.
Multi-currency billing systems and price adjustment	80.82% of respondents agreed that multi-currency billing systems and price adjustment is doable strategy and work well if other competitors in the market are also impacted by the movements in the currency market.
Invoicing exports/ imports through hard currency like USD or Euro etc.	Respondents' results indicated that 67.12% of SMEs/ Corporates agree that invoicing exports/ imports through hard currency like USD or Euro etc. is good internal hedging strategy.
Negotiating imports pricing in domestic currency (INR)	Responses indicated that 52.05% of respondents agree that negotiating imports pricing in domestic currency (INR) is a practical internal hedging strategy.
Leading and lagging- Inter-entity netting of receipts and payments	Leading is exchanging currency in domestic or foreign in advance well before a payment is to be effected and Lagging is delaying the transaction. Lagging does not reduce risk because the costs are not known. SMEs/ Corporates were asked to respond to this statement and the results indicated that 80.27% of them agreed that leading and lagging through inter-entity netting of receipts and payments is good strategy for hedging FCE risks.
Leading and lagging- Netting through cross hedging, using	The results indicated that 78.36% of respondents agree that netting of FCE through cross hedging, using cash flows in different currencies to offset each other (Leading and lagging) is a practical and approachable internal hedging strategy for

cash flows in different currencies to offset each other	mitigating FCE risks.
Perception of SMEs/ Corporates towards External Hedging Techniques	
Apart from seeking opinions on internal hedging strategies/ techniques for mitigating FCE Risks, an attempt was also made to know the perception of the SMEs/ corporates on their awareness, practicability, use and assessment of various external (financial) hedging strategies/ techniques. Two possible responses YES (1) and NO (2) for the questions were offered and $\chi 2$ test was computed to test the significance. Responses gathered were as following:	
Forward Contract	98.84% of the respondents agreed that forward contract is most prominent and widely used external hedging strategy/ technique among Indian corporates for mitigating FCE Risks.
Options	61.92% of respondents agreed that options is a good and practical strategy for FCE risks mitigation.
Covered Options	The results indicated that only 10.96% of respondents agreed and 89.04% of respondents disagreed that covered options is a good and practical strategy for FCE risks mitigation.
Futures	The questionnaires results indicated that 64.11% of respondents agreed that long and short of futures is a practical and good external hedging strategy/ technique for hedging FCE risks.
Swaps/ Interest Rate Swaps (IRSs), Forward Rate Agreements (FRAs)	Questionnaires results indicated that only 41.64 % of respondents agreed that Swaps/ Interest Rate Swaps (IRSs), Forward Rate Agreements (FRAs) are good external hedging strategies for FCE risks management

Structured Products	Questionnaires results indicated that 58.36 % of respondents disagreed that buying structured products from ADs or banks is a good external hedging strategy/ technique for hedging of FCE risks.
Zero Cost Structure	Questionnaires results indicated that 58.36 % of respondents disagreed that entering zero cost structures through ADs or banks is a good external hedging strategy/ technique for hedging of FCE risks.

Perception of SMEs/ Corporates on Suggestions for improving management of Risks from Foreign Currency Exposure of SMEs/ Corporates

Before designing the questionnaires and during deliberations with the SMEs/ corporates, bankers, CAs etc., many observations cum suggestions were noticed. These were included in the questionnaires for seeking opinion of the participants from targeted group of sample population. Responses were collected on following eight suggestions which may be useful in minimising FCE risks of SMEs/ corporates.

1. Government should provide tax, non -tax based incentives to export oriented SMEs, particularly in case of appreciation in INR
2. Government should make hedging instruments cheaper and user friendly
3. Easy availability of Exchange Traded Products
4. Decisions for hedging should be quick and based on proper strategy
5. Structured/ complex derivatives products should be avoided
6. SMEs should outsource professional and advisory services to take care of their foreign currency risk management
7. SMEs should prepare and adhere to a policy document on foreign currency risk management.
8. SME should try to pass pricing fluctuations on to customers by entering price variance clauses.

From the analysis of the data collected it was observed that the mean score was highest in respect of foremost factor Making hedging instruments cheaper and user

friendly. The second and third significant factors were Decisions for hedging should be quick and based on proper strategy and Easy availability of Exchange Traded Products respectively. Precisely all the factors were found specific for improving management of Risks from Foreign Currency Exposure of SMEs/ Corporates, however among those the prominent was making hedging instruments cheaper and user friendly.

Perception of Bankers/ Financial Experts on causes for Risks from FCE, their impact and suggestions etc.

Foreign Currency Exposure of SMEs/ corporates affect not only themselves but impact their finance management people also, especially their banks. Their banks and the institutions/ persons looking after their finance and accounts get affected directly or indirectly with the impact of FCE Risks of their clients/ organisations. Accordingly, opinions from these two categories of professionals, bankers and finance experts, was also obtained.

In all one hundred questionnaires were administered to bankers / finance experts. Out of which, 84 responded and 60 questionnaires were found eligible for data analysis. Ten Interviews with the bankers / finance experts was also conducted to have a first-hand idea about various issues.

Initial analysis of the data revealed that most of the bankers/ FEs have ranked 'Failure in identifying various types of exchange rate risks' as a major cause of FCE Risks, followed by 'Volatility in currency fluctuations' and 'Failure in identifying various types of exchange rate risks' as major factors causing FCE Risks. 'Poor Cash flow position of the firm and its ability to withstand currency fluctuations' and 'Inadequate understanding of various hedging products, especially derivatives products' were also rated as other main reasons. Respondents irrespective of experience found unawareness about the problems related with currency exposure, non-availability of proper user-friendly hedging products/ mechanism, interest rate fluctuations, volatility in clients' domestic currency and change in attitude of individual overseas customers as less important causes of FCE Risks.

Perception of Bank Officials/ Financial Experts towards the Reasons for non-

adoption of Hedging strategies by SMEs/ Corporates

Currencies, other than hard currencies, are difficult to hedge due to, inter-alia, high cost of hedging or non-existence of products like forward or options for soft currencies. Volatility of currencies also enhance anxiety among SMEs/ corporates that implementing a hedging strategy may be counter-effective compared to maintaining a status quo. The situation is supplemented by lack of knowledge/ skills, poor internal resources, none or inadequate risk culture in the organisation etc.. Lack of visibility and acumen to assess real exposure to multiple currencies also cause delay in selecting and implementing suitable hedging strategy. We sought opinion of Bank Officials, Financial Experts towards the reasons for non-adoption of hedging strategies by SMEs/ Corporates for managing their FCE Risks effectively and identified nine items with two possible responses namely YES (1) and NO (2). for the questions were offered. Responses gathered are summarised as following:

Low business volumes	86.66% of the respondent bankers/ FEs agreed that the SMEs/ Corporates avoid adhering to hedging strategies for mitigating their FCE Risks due to low business volume.
Availability of natural hedge	91.66% agreed that the SMEs/ Corporates do not stuck to hedging strategies because of their availability of natural hedge.
Cost of hedging exceeds the expected benefits	92.34% agreed that the SMEs/ Corporates do not stuck to hedging strategies because of hedging cost which exceeds their expected benefits. At times, bankers share that they avoid taking even necessary precautions like ECGC due to apprehension of increase in the cost of borrowing vis-à-vis pricing selling products.
Unawareness about various internal and external hedging	Goldberg et al. (2007) share that most of the time entities stick to 'doing nothing' strategy for managing their foreign currency exposure. Percentage agreed and Top Two Boxes indicate that 81.66% agreed that SMEs/ Corporates do not adopt hedging strategies because of their unawareness about various internal

strategies and techniques	and external hedging strategies and techniques.
Non-availability of trained staff	91.66% agreed SMEs / Corporates avoid hedging due to non-availability of trained staff.
Absence of Hedging Cost Budget	Percentage agreed and Top Two Boxes indicate that 90% agreed that the absence of Hedging Cost Budget is the reason for non-adoption of hedging strategies by SMEs/ Corporates. Not having a hedging cost budget also acts as a detriment in exiting unprofitable hedges.
Limited Hedging Products available at OTC	90% agreed that availability of limited hedging products is also a reason for non-adoption of hedging strategies by SMEs/ Corporates
Structured products offered by the Banks	80% of the respondents agreed that the banks' offering structured/ exotic products to SMEs/ Corporates is a reason for non-adoption of hedging strategies.
Difficulty in pricing and valuing derivatives	80% agreed that the difficulty in pricing and valuing derivative is a reason for non-adoption of hedging strategies by SMEs/ Corporates.

Perception of Bank Officials/ Finance Experts towards Internal Hedging Techniques

Kula (2005) reveals that SMEs are less familiar with external hedging techniques such as forwards, futures, swaps, and options. Lamarre et al. (2008) shares that firms with foreign exchange exposure usually prefer to operational strategies such as passing the currency risk on to the customer, moving their production to countries with lower costs and thus improving their productivity and revenue. Experts opine that hedging requires sophisticated risk management skills and financial acumen which are not the

natural strengths of small and medium enterprises. Lack of resources and knowledge also put constraints on their initiatives of managing their genuine currency risks exposure smoothly through external hedging techniques. With a view to know the perception of the respondent bankers/ FEs on SMEs'/ corporates' adopting hedging strategies responses were invited and analysed, results of which are summed as following:

Entering into an agreement with the clients for sharing currency risk	81.67% of respondents were in favour that entering into an agreement with the clients for sharing currency risk is good strategy for hedging FCE risks. Experts also opine that entering into an agreement with the clients for sharing currency risk is regarded as the simplest internal hedging strategy by SMEs/ corporates in managing transaction risks. However, they add that its implementation depends on product substitutes in the market.
Matching foreign currency trade payments/ receipts against receipts/ payments in the same foreign currency	The strategy involves matching foreign sales with foreign purchases. 81.67% of Bankers/ FEs agreed that matching foreign currency trade payments/ receipts against receipts/ payments in the same foreign currency is a feasible and practical option for mitigating FCE risks.
Multi-currency billing systems and price adjustment	Results indicated that 78.67% of respondents agreed that multi-currency billing systems and price adjustment is doable strategy. However, experts believe that a few factors viz value of the transaction, current exchange rate of both domestic currency and invoicing currency, forecasted exchange rates and the degree of fluctuation in the currency used for overseas

	operations are the significant factors go hand on hand with the implementation of this strategy. Hence, while negotiating prices, and other payment terms, efforts should be made to invoicing exports through multi-currency billing systems, experts advise.
Invoicing exports/ imports through hard currency like USD or Euro etc.	78.33% of respondents Bank officials/ FEs agreed that invoicing exports/ imports through hard currencies viz INR- USD, INR-EURO, INR-Yen etc. is easier as the transactions can be entered into and squared off as many times as required. Since information related to the movement of popular and tradable currencies a.k.a. hard currencies is available live and freely through internet, social media, whatsapp etc., SMEs/ small corporates can judge forecasting and take decisions related to stop loss, entry, exit etc.
Negotiating imports pricing in domestic currency(INR)	Responses indicated that 63.33% of respondents agreed that negotiating imports pricing in domestic currency (INR) is a practical and good internal hedging strategy.
Leading and lagging- Inter-entity netting of receipts and payments	60% of Bankers/ Fes agreed that leading and lagging through inter-entity netting of receipts and payments is good strategy for hedging FCE risks.
Leading and lagging- Netting through cross hedging, using cash flows in different currencies to	71.67% of respondents agreed that netting of FCE through cross hedging, using cash flows in different currencies to offset each other (Leading and lagging) is a practical and approachable internal hedging strategy for mitigating FCE risks.

offset each other	
Perception of Bank Officials/ Finance Experts towards External Hedging Techniques	
Forward contract	Cent percent of respondents agreed that forward contract is the most common external hedging strategy/ techniques for mitigating FCE Risks.
Options	71.67% of respondents agreed that options is a good and practical strategy for FCE risks mitigation.
Covered Options	88.33% of respondents disagreed that covered options is a good and practical strategy for FCE risks mitigation.
Futures	66.58% of respondents agreed that long and short of futures is a practical and good external hedging strategy/ technique for hedging of FCE risks.
Swaps/ Interest Rate Swaps (IRSs), Forward Rate Agreements (FRAs)	40 % of Bankers/FEs agreed that Swaps/ Interest Rate Swaps (IRSs), Forward Rate Agreements (FRAs) is a good external hedging strategy/ technique for hedging of FCE risks. Whereas, 60% of the disagreed respondents also share that these products are not very common in the market and hence are not easily available for mitigating FCE risks.
Structured Products	70% of respondents disagreed that buying structured products from ADs or banks is a good external hedging strategy/ technique for hedging of FCE risks. Analysis of respondents' observations reveal that many participants expressed their concerns over selling of structured products to the SMEs by a few Ads. They share that rupee appreciation against hard currencies, especially dollar, motivates Indian corporates to enter into currency derivative contracts to hedge their positions. Few of them undertake their positions for speculations also. The interested Ads also oblige them for fetching good commission

	and other charges. By twisting various regulatory guidelines, accounting standards, these ADs sell leveraged products to such clients. These products are sold primarily for hedging currency risk and at times for speculative gains as well. That results in a situation where if a corporate has taken currency bets, but adverse movements in the dollar and other currencies exposes him to an amount which may be twice or thrice his export income. Then they suffer huge loss.
Zero Cost Structure	80 % of respondents disagreed that entering zero cost structures through ADs or banks is a good external hedging strategy/ technique for hedging of FCE risks. Zero Cost Structure products are viewed in India as simultaneously buying and selling of options. However, experts share that as a rule, writing options cannot be viewed as hedges at all and may led to huge losses. Writing option creates a risk – it cannot hedge any risk, they add. In terms of prevalent accounting standards written options do not qualify also for hedging.

Perception of Bankers and Financial Experts on UFCE of SMEs/ Corporates

Both well-established Over The Counter (OTC) market and fast gearing exchange-traded market are providing diversified range of products for hedging currency risks with minimal cost and improved transparency. Nonetheless, the unhedged exposure of Indian entities is quite high. Various studies and estimates suggest that approximately two-thirds of total gross forex exposures is unhedged. Unhedged Foreign Currency Exposure (UFCE) create vulnerability when there is a global event and hard currency investments are repatriated by foreign investors. UFCE increase risk-weighted assets (RWA) for the Banks and they have to create more provision from their profit.

Experts put forth that hedging is often left incomplete, albeit, for a number of reasons. First, psychological factors undermine rational hedging. People prefer a sure gain, but

they also prefer an uncertain outcome with a small probability of gain to a sure loss. In other words, hedging involves a small sure cost, and without it there is a small probability of a large gain. They are, therefore, willing to forgo hedging and undertake more risk than is rational.

UFCE of SMEs/ Corporates are a source of risk not only the individual entity/ corporate itself but large potential credit loss to their bankers also. Banks bear the credit risk arising from unhedged exposure to their clients and also market risk on such unhedged/ partially hedged clients' transactions. UFCEs of corporates impact adversely the bottom line of banks because of increase in provision and enhancement in capital.

An attempt was made to know the perception of the respondents Bankers and Financial Experts on this aspect. Following seven items, considered relevant for occurrence of UFCE by SMEs/ Corporates, were identified for their responses.

1. Lack of Forex Management Skills
2. Difficulty in estimating exposure effect
3. Data collection and management by banks
4. Non-availability of trained staff
5. Over financing / Under financing
6. Aggressive lending by Banks for improving volume of business
7. Absence of industry wise exposure limits for SMEs/ small Corporates

It was found from the data analysis that the mean score was highest in respect of 'Lack of forex management skills' followed by 'Difficulty in estimating exposure effect' and 'Data collection and management by banks' respectively. 'Non-availability of trained staff' and 'Over/under financing' were ranked moderately. Respondents have ranked 'Absence of industry wise exposure limits for SMEs/ small Corporates' as lowest. It may be concluded, therefore that, most prominent factor specific to different causes behind UFCE of SMEs/ Corporates was Lack of Forex Management Skills (SMEs/ corporates).

Perception of Bankers and Financial Experts on Suggestions for managing Risks

from Foreign Currency Exposure of SMEs/ Corporates

An attempt was also made to know the perception of the respondents Bankers and Financial Experts on following eight suggestions for managing Risks from Foreign Currency Exposure of SMEs/ Corporates:

1. Government to provide tax, non -tax based incentives, especially in case of appreciation in INR
2. Government should make hedging instruments cheaper and user friendly
3. Easy availability of Exchange Traded Products
4. Decisions for hedging should be quick and based on proper strategy
5. Structured/ complex derivatives products should be avoided
6. SMEs should outsource professional and advisory services to take care of their foreign currency risk management
7. SMEs should prepare and adhere to a policy document on foreign currency risk management.
8. SME should try to pass pricing fluctuations on to customers by entering price variance clauses

The ranks and mean scores with respect to perception of bank officials/ finance experts on above suggestions was highest for the suggestion 'Structured/ complex derivatives products should be avoided'. The second and third significant factors were 'Government should make hedging instruments cheaper and user friendly' and 'SMEs should prepare and adhere to a policy document on foreign currency risk management' respectively. 'Government should provide tax, non -tax based incentives to export oriented SMEs, particularly in case of appreciation in INR' and 'Easy availability of Exchange Traded Products' were ranked moderately. Respondents ranked 'Decisions for hedging should be quick and based on proper strategy' as lowest.

Summing Up

SMEs and small corporates are more vulnerable to foreign exchange risk, and knowledge of this field is not much as most of the previous studies have been concentrated on large firms. The established theory base provides a great depth of

knowledge in this field; however, it focuses on large, established and multinationals firms. Literature on SMEs/ small corporates' studies on foreign currency exposure risks from the bankers' point of view have been found to be rare.

Over the years, Indian SMEs/ corporates have been putting together strategies and processes diligently and largely successfully to deal with business and economic risks. However, they have found themselves unable in dealing effectively with risks arising from currency fluctuations. Volatility in foreign currency exposure, currency fluctuations have directly impact their bottom line. Especially, adverse currency fluctuations which not only impact their profitability but also operating efficiencies. With weaker capital base and tighter budgets than their counterpart larger firms, SMEs get more affected from adverse currency fluctuations. Adverse currency movements not only impact their balance sheet but also jeopardise their commercial strategy for international trading activities. Negative currency fluctuations also impact their bottom-line on making provisions on the items in FCE maturing or having cash flows over the period of next five years in compliance with the relevant Indian Accounting Standards.

This study explores various factors and variables of FCE Risks of SMEs, from bankers' point of view including relevant theoretical concepts and empirical applicability. This study also discusses in detail the impact of unhedged exposure of SMEs/ corporates. Effects of foreign currency exposure vis-à-vis adverse currency fluctuations are grave on the performance of SMEs especially those who prefer to keep their exposure unhedged. Their undesired efforts pose significant risks not only to themselves but to their banks and overall financial system also.

Key Findings	• Key findings of this study are summarized as under: • Respondents SMEs/ corporates are aware about the risks affecting their buying or selling price. • Non-availability of adequate hedging products from the banks, unfamiliarity or less familiarity with the external hedging techniques/ instruments were the important

	reasons for not adhering to hedging techniques/ strategies by the SMEs. Forward contracts as most satisfying external hedging tool in managing their risks from their foreign currency exposure. Respondents shared that cancellation and rebooking facilities are the most satisfying aspects of forward contracts however, the banking and other cost associated attached were the reasons for opting out. • Usage of various internal hedging techniques such as changing the product-market combination, relocating manufacturing establishments, changing the input source etc. were found to near impossible on ground reality for the SMEs/ corporates of limited magnitudes. • Many SMEs / corporates do not perceive currency risks as an important risk to consider and prefer to keep major portion of their exposures unhedged, wishfully feeling that in case of currency fluctuations losses they could absorb themselves. • Most of the respondent SMEs/ corporates do not have advantage of natural hedge by their export proceedings whereby their currency risks on imports can be set off. • Most of the respondent SMEs/ corporates do not often have enough resources and organisational structure to manage their foreign currency exposure risks. At times, they fail to anticipate the market loss and face survival problems. • Many respondents SMEs were found not well-equipped in using exchange traded currency and interest rate risks hedging instruments.

	• Most of the respondents SMEs were found to have a clear strategy for hedging currency risk given the availability of resources and capability to face such challenges as well. • Most of the respondents SMEs/ corporates were found increasingly keeping their foreign currency exposure unhedged, deterred by the high cost of hedging and lulled into complacence by the rupee's relative stability in recent months. • Experts believe that while managing their currency exposure, the foremost objective of the entities should be minimising exchange losses followed by reducing volatility of the cash flows. Interestingly, for many respondents these were similar and there was no difference between these two objectives. • Most of the participants suggested that banks in consultation with the trade and industry bodies should conduct forex awareness programmes on currency exposure management, especially for small corporates/ SMEs. Experts from financial services and banking industry were also of the view that lending institutions may conduct such programmes from time to time, at least for their borrowal clients in collaboration with the agencies like CII, FICCI, state level industrial bodies for reaching larger audiences. • In wake of the exotic derivatives sold in the past by some of the private sector banks to their clients without explaining clearly the pros and cons of the same which resulted in considerable foreign exchange losses to them, many experts strongly feel opined that RBI should

	instruct the PSBs and PvtSBs to popularise various derivative products among their borrower customers well. Experts from finance industry contended that SEBI, CCIL, NSE and/ or any other government agency should develop a platform where the exchange rate forecasting data/ information should be collected and analysed to facilitate foreign currency exposure risk management to small corporates/ SMEs. • Many stakeholders/ partners/ directors of the respondent SMEs/ corporates were found having a firm hold liking for using derivatives for profit speculation instead of risk management and value maximization of the organisation. • Ownership concentration with respect to forex management decisions were found common in many respondents SMEs/ small corporates. The relevant operating staff, handling day to day banking and other financial operations were found neither having authority nor any incentive for taking extra mile in reducing currency risks for their organisation. They are also not normally well-equipped to use any hedging instrument to hedge currency and interest rate risks. Many SMEs were found not having a clear strategy to hedge currency risk is much more important given the availability of resources as well as capability to face such challenges. • Experts opine that it is very necessary for exporting SMEs to perceive clearly forex risk. A few industry experts observe that as against the earlier days when entities were run by inherited business acumen, social skills and experience, presently most of the SMEs/ corporates are

	managed by the people both from senior and young generations. While senior people possess lateral thinking and business acumen, young generation persons possess technical skills and professional qualifications. • Experts contend that now the time has come when this generation of industry owners, directors, top and higher management persons have to understand themselves the relationship between currency issues and their effective management. They need to find a clear and accessible insight into foreign currency through books, keeping a hawk's eye on the market and also seeking professional advisories from time to time. • Presently, foreign currency transactions are undertaken in following four different markets, Spot, Futures, Options and Other Derivatives (IRS, FRA etc.) markets. These markets function separately but are closely interconnected. Respondents strongly felt that the need of developing a separate foreign exchange market on the lines of share and money market, especially to meet SMEs/ small corporates' demands and expectations. Similarly, currency futures and options are presently traded in equity and commodity exchanges. There is also a need for separate currency exchange which caters to the needs of business enterprises, especially SMEs/ Corporates by offering derivative products for hedging purpose only. • Industry experts also suggest that let a single regulator should regulate all derivative products offered to business enterprises while managing their currency

	exposure. Presently, the authority of two regulators, viz., RBI and SEBI overlaps in certain areas – for example, OTC derivatives are regulated by RBI where currency futures are regulated by SEBI. This gives rise to a regulatory overlap leading to conflicts since RBI permits derivatives only for the purpose of hedging a risk but not for speculative purposes. But currency futures give scope for speculation. Regulation of all the aspects of currency exposure management by one dedicated regulator addresses these issues. • Results of this study demonstrate that there are many reasons because of which SMEs avoid hedging. Greed for making profit instead of maximising value through derivative hedging make external hedging techniques favourable to SMEs. However, it is questionable as to whether the use of more external hedging techniques brings more benefits than drawbacks for SMEs. In this backdrop our study lacks detailed discussions on the use of hedging techniques for efficient management of forex risk by SMEs. • Future studies may be extended on cross- selling, or mis-selling of various hedging products by the banks to their SMEs borrowers. • Replication of this study in different part of the country, inter countries comparisons may provide a useful means to advance the generalisability of findings our study. For example, empirical data in both developing and developed countries may provide comparative results about FCE risks of SMEs/ corporates and their impact

	across different institutional environments. • Further research on SMEs' forex risk management could be conducted from the perspective of decision making literature. Our study thesis sheds new light on SMEs' hedging practices by taking into account the ownership concentration aspects for forex related decision-making process, however, we do not take into consideration any cognitive capacity of decision makers e.g. their traits, abilities, knowledge corridors, networks etc. which impact their decisions relating to forex risk management. Therefore, replication of our study from the perspective of causation and effectuation process in ownership concertation, risk aversion aspects of SMEs may break through the clouds of new horizon in decision making in foreign currency exposure risk management. • Summing up, our study results are expected to provide important contribution towards understanding the available strategies that can be used by small and medium entities to manage the risks associated with forex exposure. This study also gives insight on why they are used and how effective they are in managing the risks to SMEs/ corporates are exposed. It provides insights by applying perspectives that are relatively novel in this area, albeit from established theoretical streams – namely, the resource-based view and determinants of forex risk management by SMEs from bankers' point of view. • The results of the study can be used to assist other SMEs in the import and export market to formulate their own forex management strategy.

Table of Contents

List of Tables

List of Abbreviations

Acronym	Expansion
ADR	American Deposit Receipt
AD	Authorized Dealer
AML	Anti-Money Laundering
ANOVA	Analysis of Variance
ARCH	Autoregressive Conditional Heteroskedasticity
ARMA	Autoregressive Moving Average
AS	Accounting Standards
ASSOCHAM	Associated Chamber of Commerce and Industry
ATM	At-The-Money
BOP	Balance of Payments
BSE	Bombay Stock Exchange
CBLO	Collateralized Borrowing and Lending Obligations
CCIL	Clearing Corporation of India Limited
CD	Certificate of Deposit
CMs	Clearing Members
CP	Commercial Paper
CRR	Cash Reserve Ratio
DITM	Deep In-The-Money
DOTM	Deep Out-Of-The-Money
ECB	External Commercial Borrowing
EEFC	Exchange Earners Foreign Currency Account
EGARCH	Exponential GARCH
ER	Exchange Rate
F&O	Future & Options
FB	Foreign Bank
FC	Foreign Currency

FCE	Foreign Currency Exposure
FCRM	Foreign Currency Risk Management
FCCB	Foreign Currency Convertible Bond
FCNR	Foreign Currency Non- Resident
FDI	foreign Direct Investment
FEMA	Foreign Exchange Management Act
FICCI	Federation of Indian Chambers of Commerce and Industry
FII	Foreign Institutional Investor
Forex	Foreign Exchange
FX	Foreign Exchange
FRA	Forward Rate Agreement
GARCH	Generalized Autoregressive Conditional Heteroskedasticity
GBP	Great Britain Pound
GDP	Gross Domestic Product
GDR	Global Depository Receipt
GST	Goods and Services Tax
HC	Hard Currency
IAS	International Accounting Standards
ICAI	Institute of Chartered Accountants of India
IDR	Indian Depository Receipt
INR	Indian Rupee
IRS	Interest Rate Swap
ISDA	International Swaps and Derivatives Association
IT	Information Technology
ITES	IT Enable Services
ITM	In-The-Money
JPY	Japanese Yen
LIBOR	London Inter Bank Offered Rate
MCX	Multi Commodity Exchange

MIBOR	Mumbai Inter Bank Offered Rate
MNC	Multi National Company / Corporation
NPAs	Non-Performing Assets
NRI	Non-Resident Indian
NSE	National Stock Exchange of India
OLS	Ordinary Least Square
OTC	Over The Counter
OTM	Out-Of-The-Money
PPP	Purchasing Power Parity
PSB	Public Sector Bank
PvtSB	Private Sector Bank
RBI	Reserve Bank of India
REER	Real Effective Exchange Rate
SCBs	Scheduled Commercial Banks
SCRA	Securities Contracts Regulation Act
SEBI	Securities and Exchange Board of India
SENSEX	Sensitivity Index
SEZ	Special Economic Zone
SLR	Statutory Liquidity Ratio
SME	Small and Medium Enterprise
SPSS	Statistical Package for the Social Sciences
TMs	Trading Members
USD	United States Dollar

1. Chapter- Introduction

1.1 Background of the study

Reynolds (1997) shares that SMEs have been increasingly internationalized since the 1980s and are making considerable contributions to economic growth and prosperity of a country.

The effects of adverse foreign exchange movements on SMEs pose significant risks to businesses in import and export markets. Ehrlich et al. (2008) reveal that a firm's foreign exchange exposure can make difference between profit and loss and share in their findings that If the firm operates at a 10% margin and the foreign exchange market fluctuates by 10%, then this could lead to the loss of its margin. Compared to large firms and MNCs, SMEs are more vulnerable to foreign exchange risks.

Currencies of emerging market countries are considered to be soft and carry inherent risk of volatility. Indian currency, INR has also remained volatile although it is functioning as a market determined exchange rate since 1993. However, it fluctuates a lot with global currencies viz US dollar, Euro, Pound, etc. and its volatile nature exposes traders, manufacturers, services providers to foreign currency exchange rate risk. INR volatility affects different stakeholders differently. When rupee appreciates exporters get adversely impacted as their forex revenue takes a hit. On the other hand, importers get benefitted as a strong currency brings down their import cost. Conversely when INR depreciates, forex revenue for exporters shoots up but the expenses go up for importers.

Impact of INR volatility, however, varies from sector to sector. Normally the sectors having higher forex earnings viz. IT & IT services, pharmaceuticals, automobiles etc. get hurt by a strong rupee and are benefitted from a weak rupee. Similarly, import-oriented sectors such as oil and gas, metals, etc., come under pressure when the rupee depreciates (Table- 1-1).

Table 1-1 Impact of Currency Fluctuations on various sectors

Industry	Percentage of business transactions		Impact on profitability
	As Importer	As Exporter	
IT and Software	Low	High	Negative
Handicrafts	Low	High	Negative
Leather	Low	High	Negative
Automobiles	Medium	Low	Positive
Engineering	Medium	Low	Positive
Pharmaceuticals	High	Low	Positive
Gem and Jewellery	High	High	Neutral
Metals	High	Low	Positive
Airlines	High	Low	Positive
Oil And Gas	High	Low	Positive
Source- Own computation			

Ability of different sectors to withstand adverse currency exposure effects is different. For instance, if the IT sector has higher margins than the handicrafts sector, an IT company has a greater capacity to withstand the adverse impact of the appreciation of the Rupee. Nevertheless, foreign currency exposure risk entails profound effects on earnings of entities, especially of SMEs/ small corporates.

Experts opine that SMEs are more vulnerable to foreign exchange risk and the effects of adverse foreign exchange movements pose significant risks to businesses in import and export markets. Ehrlich et al. (2008) studied as to how a firm's foreign exchange exposure can make the difference between profit and loss. Their findings reveal If the firm operates at a 10% margin and the foreign exchange market fluctuates by 10%, then this could lead to the loss of its margin.

Present studies fall short in providing in depth understanding of risks from foreign

currency exposure of SMEs/ small corporates. Earlier, most of the previous studies have been concentrated on the issues of foreign currency exposure of large entities, corporates and MNCs. Above all, studies from FCE risk of SMEs from bankers' point of view have also been found to be rare.

The development of SMEs in the local and global economy is vital to both economic growth and poverty alleviation (Acs, Morck, Shaver, & Yeung, 1997; Ayyagari et al., 2007; Gibson & Vaart, 2008). SMEs find themselves more exposed to volatility in the exchange rates than larger firms (Choi, 2012; McCarthy, 1999).

Previous studies in the field have concentrated mainly on larger firms, with small firms given less attention (Choi, 2012; Kula, 2005; McCarthy, 1999). This study will explore the Risks from Foreign Currency Exposure of SMEs/ small corporates and their impact on Banks in India. The study aims to address the risks emanating from Foreign Currency Exposure (FCE) of Indian SMEs/ small corporates and their impact on banks.

1.2 Problem Statement

Post LPG, there has been significant increase in the number of Indian business enterprises exporting their products and services. This increase has not only been in terms of the variety of products and services but also in volume, value and increased inflow of earnings in foreign exchange.

While the strategies used by large firms have been widely published, and their strategies for managing foreign exchange such as operational and financial hedging are known (Aabo, Høg, & Kuhn, 2010; Choi, 2012; Muller & Verschoor, 2006), the challenge in the current academic literature is to find research focused on the management of foreign exchange issues facing SMEs (Choi, 2012; McCarthy, 1999).

Between large and small and medium enterprises, SMEs are more exposed to foreign currency exposure risks. Understanding what are the reasons behind, how SMEs identify

these, assess and strategies are available to them to mitigate this risk could prove to be a significant factor in increasing the sustainability and profitability of SMEs in emerging markets. There has been little observed literature on identification, assessment and management of foreign currency exposure risks through a firm's characteristic variables. transaction exposures, factors influencing choice of external hedging techniques usage etc. vis-à-vis variables associated with firm's size.

Several findings question the value of firms hedging forex risk because the risk may not be a major impediment to international trade, and because difficulties, costs of hedging, and short-term exchange rate fluctuations are not considerable (Brookes, Hargreaves, Lucas, & White, 2000). However, a number of studies demonstrate that firms should be managed in anticipation of uncertainty of forex rates (Brookes et al., 2000; Dash, Babu, Kodagi, & Vivekanand, 2008; Dhanani, 2003; Joseph, 2000; Loderer & Pichler, 2000; e.g., Marshall, 2000; Moosa, 2004; Morey & Simpson, 2001; Pramborg, 2005). On account of this, a question arises as to the extent to which firms should hedge their forex risk.

1.3 Research Questions

With a view to address the relevant questions and the research gaps observed during literature review, this study seeks to address seeks to understand the reasons, strategies behind the identification, assessment, measurement and management of risks arising from foreign currency exposure of SMEs/ corporates by addressing following questions (Table-1-2).

Table 1-2 Research Questions

RQ1:	What are the major components of FCE ?
RQ2:	How do SMEs perceive risks arising from their Foreign Currency Exposure
RQ3:	How do they identify, assess and measure their FCE Risks?
RQ4:	How the Banks perceive FCE Risks of their borrowers?

RQ5:	What are the risks from bankers' point of view in extending credit facilities to exporters/ importers?
RQ6:	What are the Bankers' risks in extending Pre-Shipment Finance and Post-Shipment Finance?
RQ7:	What are the major tools available to them to reduce their FCE risks and how do they use these?
RQ8:	What factors influence their selection in choosing hedging strategies?
RQ9:	What are the Risks attached with hedging instruments/ derivatives products allowed by the Banks to their SME/ corporates borrowers
RQ10:	Why SMEs/corporates do not prefer to hedge their FCE?
RQ11:	What are the Risks from UFCE of Corporates/ SMEs
RQ12:	What are the Impact on Banks from UFCE of Corporates etc.
Source- Own computation	

1.4 Objectives

Keeping in view the research questions and in order to achieve the overall objectives of the research to study the foreign currency exposure risk management of SMEs/ corporates from the bankers' point of view, the study has been undertaken with the following specific objectives (Table- 1-3):

Table 1-3 Objectives

Objective 1:	To identify the Causes/ Background of the Risks arising from Foreign Currency Exposure of SMEs/ corporate.
Objective 2:	To understand the need, importance and implications of Foreign Currency Exposure risks management.
Objective 3:	To examine the Products/ Techniques available for managing risks from Foreign Currency Exposure
Objective 4:	To Identify the measures of FCE Risks Assessment
Objective 5:	To understand the constraints, problems, challenges in Assessment of FCE Risks Assessment and Measurement
Objective 6:	To examine and understand the importance of Internal and External Hedging Strategies of SMEs for managing FCE Risks
Objective 7:	To identify the Reasons behind UFCE of SMEs

1.5 Research Hypotheses

Hypotheses are generated (and tested) from the theoretical framework developed with the help of concepts extracted from the literature survey (Sekaran, 1999). The hypotheses are about the relationships between research variables (predictors and criterion). Within a framework of the above-mentioned objectives major hypotheses were formulated separately both for SMEs/ Corporates and Bankers/ Finance Experts for the study as under (Table- 1-4):

Table 1-4 Hypotheses to know the Perception of SMEs/ Corporates

Hypotheses to Know the perception of SMEs/ Corporates		
Objectives To Know		**Hypotheses**
Perception of SMEs/ Corporates on Country Risks	HO1	There is no significant agreement among the SMEs/ Corporates (respondents) in the ranking of different causes of Country Risks with respect to FCE Risks.
Perception of SMEs/ Corporates on Commodity Risks	HO2	There is no significant agreement among the SMEs/ Corporates (respondents) in the ranking of different causes of Commodity Risks with respect to FCE Risks.
Perception of SMEs/ Corporates on different causes for FCE Risks emerging from Business & Economic Activities	HO3	There is no significant agreement among the Bankers/ Finance Experts (respondents) in the ranking of different causes of FCE Risks.
Perception of SMEs/ Corporates on Assessment of FCE Risks- (When)	HO4	There is no significant agreement among the SMEs/ Corporates (respondents) in the ranking of different causes for assessment (When) of FCE Risks
Perception of SMEs/ Corporates	HO5	There is no significant agreement among the

on Assessment of FCE Risks- (Why)		SMEs/ Corporates (respondents) in the ranking of different causes for assessment (Why) of FCE Risks
SMEs/ Corporates Perception for Not Adopting Hedging Strategies	HO6	There is no significant agreement among the SMEs/ Corporates (respondents) in the ranking of different causes for not adopting hedging strategies
Perception of SMEs/ Corporates on Internal Hedging Strategies	HO7	There is no significant agreement among the respondents SMEs/ corporates in the ranking of awareness/use of Foreign Currency Risk Internal Hedging Techniques / products by SMEs/ corporates.
Perception of SMEs/ Corporates on External Hedging Strategies	HO8	There is no significant agreement among the respondents SMEs/ corporates in the ranking of awareness/use of Foreign Currency Risk External Hedging Techniques / products by SMEs/ corporates.
Perception of SMEs/ Corporates on suggestions for FCE Risks Management	HO9	There is no significant agreement among the SMEs/ Corporates (respondents) in the ranking of suggestions for improving management of Risks from Foreign Currency Exposure of SMEs/ Corporates

Table 1-5 Hypotheses to know the Perception of Bankers / Financial Experts

Hypotheses to Know the perception of Bankers/ Finance Experts		
Objectives To Know		**Hypotheses**
Perception of Bankers/ Finance Experts on different causes for FCE Risks emerging from	HO1	There is no significant agreement among the Bankers/ Finance Experts (respondents) in the ranking of different causes of FCE Risks.

Business & Economic Activities		
Perception of Bankers/ Finance Experts on different causes for FCE Risks emerging from Business & Economic Activities - As Per Length of Experience	HO2	There is no significant agreement among the Bankers/ Finance Experts (respondents) in the ranking of different causes of FCE Risks as Per Length of Experience of Bankers/ Finance Experts
Perception of Bankers/ Finance Experts on Reasons for non-adoption of Hedging strategies by SMEs/ Corporates	HO3	There is no significant agreement among the Bankers/ Finance Experts (respondents) in the ranking of reasons for non-adoption of Hedging strategies by SMEs/ Corporates
Perception of Bankers/ Finance Experts on Reasons for Adopting Internal Hedging strategies by SMEs/ Corporates	HO4	There is no significant agreement among the Bankers/ Finance Experts (respondents) in the ranking of awareness/use of Foreign Currency Risk Internal Hedging Techniques / Products by SMEs/ corporates.
Perception of Bankers/ Finance Experts on Reasons for Adopting External Hedging strategies by SMEs/ Corporates	HO5	There is no significant agreement among the Bankers/ Finance Experts (respondents) in the ranking of awareness/use of Foreign Currency Risk External Hedging Techniques / Products by SMEs/ corporates.
Perception of Bankers/ Finance Experts on Reasons behind UFCE of SMEs/ Corporates	HO6	There is no significant agreement among the Bankers/ Finance Experts (respondents)in the ranking of different reasons behind UFCE of SMEs/ Corporates
Perception of Bankers/ Finance Experts on Suggestions for managing FCE Risks of SMEs/ Corporates	HO7	There is no significant agreement among the Bankers/ Finance Experts (respondents) in the ranking of suggestions for managing Risks from Foreign Currency Exposure of SMEs/ Corporates

1.6 Scope of the Study

This study focuses on various aspects of FCE risk management strategies deployed by SMEs/ corporates and their impact on banks. Dong et al. (2014), Muller et al. (2006), Kula (2005), Hagelin (2003) share that FCE risks generally emanate from translation risks, transactional and operational risk. In the context, McCarthy (1999) and Kula (2005) share that Translational risk applies mainly to businesses with foreign operations, which seldom include SMEs. Taking this into consideration, experts add that most of the SMEs/ small corporates may not come under the purview of translational risks as their area of operations remains primarily confined to one domicile only. Hence this study focuses on different aspects of transactional risk, as it is the most likely risk that small and medium enterprises face when doing international business.

1.7 Significance of the Study

The study focuses on various aspects of FCRM of SMEs/ small corporates that come across in managing the risks associated with foreign exchange fluctuations

1.8 Type of study

The study is an empirical research. The methodology will be based on a descriptive explorative research model in which explorative study of the policy documents, articles, RBI master circulars and other guidelines issued by RBI, CCIL, SEBI, FEDAI, MCA, ICAI, Indian Accounting Standard will be referred. Relevant published research papers and the best practices adopted by banks/ organisations across the globe will be referred to find out the perception, causes and impact of Risks form FCE of SMEs.

1.9 Area of Study

FCE risks are managed by large and big companies comparatively easily as these have better resources to cope with such type of risks. With their own sophisticated treasury departments, access to different and geographically diversified markets, they are able to

compensate their losses of one market (say Indian market) with matching gains from the other market (European, American) or vice versa.

On the contrary, SMEs do not often have enough resources and organisational structure to manage foreign exchange fluctuations. In a volatile market, they fail to anticipate the exchange rate risks to offset the market loss and at times run a risk of protecting their business against currency volatility.

We propose to focus different aspects of foreign currency exposure risks management of those SMEs/ small corporates which are primarily engaged in international trade and their revenue is mainly generated in foreign currency. These SMEs have a bigger need to protect their business against currency volatility and their need for FCRM is of vital importance given the availability of resources and their capability to face such challenges as well. While the study aims to analyse the data and information with respect to the entities and banks in India, results may serve as a reference/ departure point for further studies into the broader topic in similar emerging market contexts.

1.10 Limitations of the Study

Although utmost care has been exercised in all aspects of this research, like all the studies, this study also faces certain limitations which are acknowledged herewith.

The scope of this thesis is non-financial exporting SMEs, small corporates rather than non-exporting firms or large entities.

For the purpose of identifying survey respondents, definition of SMEs in this study has been considered based on the volume of turnover of an entity, instead of existing definition of SME based on investment in plant and machinery. In other part of the world, the widely used definition of SME is based on turnover or number of employees. This was done to focus on the magnitude of risks arising from forex turnover. While submitting this thesis in the month of Feb 2018, the GoI has already defined the MSME definition as

per turnover of the entity.

The study carries the inherent bias of convenience sampling i.e. the sample is unlikely to be representative of the population being studied. This study is constrained with the geographical closeness, limited time and financial resources etc. The geographical location of the sample firms has been focused to the SMEs, small corporates functioning in the specific clusters of Rajasthan, Southern Gujrat and western part of NCR. Sample population covers SMEs from those specific sector/ industry which are prominently engaged in export import activities in the specific area of Rajasthan and its nearby states. The sample population from Banking and Financial Services industry covers employees of PSBs and PvtSBs only. The employees of other banks like foreign banks, RBI specified other authorised dealers for forex business etc. are not covered.

Foreign exchange exposure of an entity may consist of different risks arising from international trade and business activities. However, this study distinctly focuses on transaction exposure of entities as this is usually referred to as foreign exchange exposure by the firms. The study makes a splash on identification, assessment and measurement of risks arising from FCE of corporates, SMEs from Bankers' point of view.

In order to focus on FCE risks of SMEs/ corporates from Bankers' point of view, this study excludes many financial and non-financial parameters, indicators related to forex business. The financial indicators viz balance sheet ratios, tax issues, government incentives, human and physical resources of the selected entities etc. have not given focused attention in this study. While conducting even personal interviews, issues related to these aspects have been kept purposefully at arm's length. Hence this study lacks in providing any insight on financial and physical resources associated with foreign currency risk management of small and medium enterprises.

1.11 Chapter Scheme

The present study covers important aspects of Foreign Currency Risk Management (FCRM) of SMEs/ corporates in sequentially arranged six chapters. A brief description of each chapter is provided below.

1.11.1 Chapter 1: Introduction

The first chapter provides background of the study and sets forth the parameters of the entire study, highlights the problem statement, justification, research questions, objectives set and the scope of the study.

1.11.2 Chapter 2: Literature Review

This chapter outlines research gaps in the literature on foreign currency risk management of SMEs and then develops the rationale for this thesis. The chapter reviews foreign currency exposure risk identification, assessment, management aspects from the point of view of SMEs/ corporates and Bankers/ Financial Experts. The chapter also discusses determinants of hedging.

1.11.3 Chapter 3: Theoretical Concepts and Practical Implications of FCE Risks

The chapter traces various theoretical as well as empirical aspects of foreign Currency Risk Management. It covers identification, assessment, measurement and management of FCE Risks. The discuss assessment and management of FCE risks both from SMEs/ corporates' points of view as well as of Banks' point of view. The chapter also covers various faces of hedging and un hedging by SMEs/ Corporates and their impact on Banks. Discussions of all these aspects provide a background of the study.

1.11.4 Chapter 4: Quantitative Research Methodology

This chapter elucidates the research methodology, hypotheses framed, data collection

methods and statistical techniques used for the analysis.

1.11.5 Chapter 5: Quantitative Analysis

This chapter diagnoses empirically questionnaire-based survey. The analysis is divided into following two sections:

- Section-1 - Perception of SMEs/ Corporates causes for Risks from FCE, their impact and suggestions etc.
- Section-2 - Perception of Bankers/ Financial Experts on causes for Risks from FCE, their impact and suggestions etc.

1.11.6 Chapter 6: Conclusion and implication

This chapter concludes the entire study, presents a brief summary and major findings of the study with overall conclusions and also offer some effective suggestions for management of Risks from Foreign Currency Exposure of SMEs/ Corporates. In addition, limitations of the study are acknowledged and avenues for future research are suggested.

1.12 Ethical Declaration

Sincere and best efforts have been made to comply with the ethical requirements of survey and research in this study. During survey participants/ informants were provided with sufficient information about the study well before the starting of their participation in the questionnaire / making responses in the interview.

Informants in the interview and participants in the questionnaire have responded/ participated in the study in a voluntary fashion. Best efforts have been made to ensure confidentiality and anonymity of the participants in questionnaires/ interviews in the reproducing their observations/ views in the study.

1.13 Conclusion

In conclusion, the study has been conducted to have insights of FCE Risks management from the perspective of SMEs/ corporates themselves and the Bankers/ Financial Experts directly or indirectly affected from their exposure. It is expected that the findings of this study will serve a reference point for further studies in similar topics/ contexts.

2. Chapter- Literature Review

The previous chapter offered plan for the entire study covering background, statement of problem, research questions, objectives, scope, significance and limitations of the study. In this chapter, we present the review of literature. The review process includes sequential steps to collect, know, comprehend, apply, analyse, synthesize and evaluate quality literature in order to provide a firm foundation to a topic, research method and the need to carry out further research.

This chapter reviews the relevant literature that is available in the field of Foreign Currency Exposure Risk Management, Hedging Strategies, Bank finance to export oriented SMEs, Off-Balance Sheet Activities on commercial Banks etc. (since hedging activities are primary part of off balance sheets exposure). The chapter sets out the premise for investigation of preliminary areas for this study and present views on different types of foreign exchange risks and their impact on business.

We start with the review of literature related with various aspects of foreign currency exposure risk management, particularly as these are experienced by SMEs/ small corporates. This is followed by a review of the literature relating to the management of foreign exchange risk from the point of view of different authors, focusing on various hedging strategies and are commonly used by SMEs/ corporates to manage their foreign currency exposure risks. To provide a context for the literature, the internationally and domestically accepted definition of SMEs is also examined

2.1.1 Background

This thesis is concerned with the identification, assessment, measurement and management of FCE risks of SMEs/ corporates and their impact on banks. But most of the previous research studies on the topic have remained concentrated on larger firms and relevant literature have been found limited (Choi,2012; Kula, 2005; McCarthy, 1999). Hence, this study aims to use the existing literature on larger enterprises, organisations as a basis for the development of a more thorough understanding of a practical strategy with respect to management of FCE risks by SMEs/ small corporates.

Export is an important constituent in determining the exchange rate exposure of a firm has been established by various theoretical (Marston, 2001) and empirical studies (Allayannis and Ofek, 2001). Allayannis and Weston (2001) come across an affirmative relation between the use of foreign exchange derivatives and firm's value.

There are numerous theories that recommend why it may be most favourable for a firm to hedge (Stulz, 1984; Smith and Stulz, 1985; Froot et al., 1993; DeMarzo and Duffie, 1995). The growing literature on the related field requires a thorough survey of the past studies. In lieu of this, the present study has been focused to obtain historical evidences through previous research.

The volatility in foreign exchange risk is influenced by change in economic performance of various economies in terms of their GDP, inflation rate, fiscal deficit, employment rate, position in world trade etc. The business firms having international operations are directly affected by change in currency exchange rate.

Foreign exchange exposure measures the extent of fluctuation of a firm's future cash flows with respect to exchange rate movements. Foreign exchange exposure is a significant risk factor for firms engaged in international business. Jorion (1990) has observed that the volatility of exchange rates is substantially higher than that of interest rates or of inflation. However, as it is difficult to directly measure future cash flows, researchers have generally examined foreign exchange exposure by examining how the firm's market value responds to changes in exchange rates. Several studies have empirically addressed the issue of foreign exchange rate exposure, particularly for U.S. firms (e.g. Jorion, 1990; Bodnar and Gentry, 1993; Amihud, 1994; Choi and Prasad, 1995; Griffin and Stulz, 1997; Allayannis, 1997). The studies generally reported negligibly low levels of foreign exchange exposure for most firms, even for firms with significant foreign operations.

Dhasmana (2013) studied the factors affecting exchange rate exposure and the effects of exchange rate exposure for Indian firms over the period 1995-2011 using the Bodnar-Marston (2002) model. He found that exchange rate volatility has a significant impact on foreign exchange exposure, apart from firm-specific factors such as firm size and growth. On the other hand, he found that foreign exchange exposure had significant impact on output growth, earnings per share, and capital expenditures of the firms, perhaps moderated by the nature of the exchange rate regime. The literature on foreign exchange exposure is very diffuse and primary focused on U.S. firms. Further, the findings on foreign exchange exposure seem to vary with industry and with country.

In an increasingly global world, most firms have their transactions denominated in numerous foreign currencies. The settlement of these transactions usually requires firms to purchase foreign currency (Bogicevic et al.,2016).

The majority of these firms are export-oriented firms that engage in many cross-border transactions and have cross-currency cash flows from using the currencies of different countries (Maniar, 2016). Other firms that use multiple currencies are multinational companies that operate in numerous territories internationally and have multiple income sources in various foreign currencies.

2.1.2 Growing role of SME- Changing Parameters

Ayyagari et al (2007) share that internationally the role of Small and Medium Enterprises (SMEs) has been recognised as an economic driver, with the World Bank citing SME development as an approach to boosting growth in the economy, increasing employment and reducing poverty. They add that however, the present formal definition of SME does not detail the give a classification of which firms fall into this category. Although across the globe there is consensus in definition of SME, but many countries and institutions such as the IMF and World Bank classify SME on the basis of full-time

equivalent paid number of employees and / or annual turnover and / or gross asset value of the enterprise. Gibson et al (2008) advise that in absence of a consensus over measure of dentition, SMEs are deprived of many benefits and initiatives allowed by their governments/ institutions.

In India at present Section 7 of the Micro, Small and Medium Enterprises Development (MSMED) Act, 2006 classifies the Micro, Small and Medium Enterprises (MSMEs) on the basis of self-declared investment in plant and machinery for manufacturing units and investment in equipment for service enterprises. However, recently the GoI has initiated steps to replace the current definition with definition based on annual turnover in order to make norms of classification growth oriented, enhance the ease of doing business and align classification norms to GST (Goods and Services Tax). (Table- 2.1)

Table 2-1 Classification of SME – Changing Parameters

Classification of SME – Changing Parameters		
Definition Based on Investment in Plant & Machinery		**Definition Based on Annual Turnover (in INR) ***
Manufacturing Enterprises	Investment Amount	
Micro Enterprises	upto Rs. 25 Lakh	Less than or equal to Rs. 5 Crores
Small Enterprises	above Rs. 25 Lakh & upto Rs. 5 Crore	More than Rs. 5 Crores but does not exceed Rs 75 crore
Medium Enterprises	above Rs. 5 Crore & upto Rs. 10 Crore	More than Rs. 75 Crores but does not exceed Rs 250 crore
(*) INR 25 lacs is equivalent to USD $ 38500 approx @ INR 65 per USD i.e. 1 mio USD is equivalent to INR Rs. 6.50 crores		

Experts share that the definition based on turnover is more rational and objective and new norms are expected to remove ambiguity about investments in plant and machinery.

In this study, we have already considered SMEs on the basis of turnover as suggested by FICCI and as defined by World Bank.

2.1.3 Literature Review- Identification, Assessment and Measurement of FCE Risk

Ideally, companies of all sizes (small, medium and big) are equally affected by Forex rate fluctuations. But there is diversity in this opinion too. Yeo and Lai (2004) state that SMEs having international exposure are more exposed to foreign exchange risk in comparison to large sized firms. While Doidge et al (2002) argue that the Forex risk exposure of SMEs is less in comparison to large firms. Experts opine that the foreign currency risk exposure may vary from country to country and also vary for specific types of firms, i.e., small, medium and large. Yadav et al (2000) share from their research that 30 percent of the companies hedge their exposure and initiate suitable steps to manage their international business.

Therefore, measuring Forex risk exposure is important to contribute to existing literature. Once the firms identify, assess and measure their foreign currency risk exposure, its management becomes easier. The management of Forex risk exposure has been dealt with different strategies.

McCarthy (1999) share that entities are exposed to Foreign Currency Exposure (Forex) Risks when their liabilities or earnings are in a foreign currency and, as a result, have a business dependency on the prevailing rate of exchange. Hagelin (2003) and Muller et al (2006) advise that there are two common types of foreign exchange exposure, namely transactional and translational exposure. However, the various other authors, such as Dong et al. (2014), Kula (2005), McCarthy (1999) etc. argue that there are three types of risks rather than two, with the third being operational/ economic exposure risk.

Translational exposure refers to firms that have foreign operations and have to restate

their financials in the local currency of the parent company when their financial statements have to be combined (McCarthy, 1999). However, the predominant view presented in the literature is that translation risk is only valid for businesses with foreign interests, and it would be highly unlikely for an SME to fall into this category (Kula, 2005; McCarthy, 1999).

Transactional risk refers to firms that trade or have contractual obligations in a foreign currency, and this can happen whether firms are using spot prices or contract prices to purchase goods in a foreign currency (McCarthy, 1999). This can also be expressed as the change in future profits instigated by the movement in the forex rate (Hagelin, 2003). Given that most firms, irrespective of whether they are in the export or import business, will have to transact in foreign currency and thus will be affected by the associated risk, itis clear that SMEs in these lines of businesses will use the same transacting method and face the same risk (Kula, 2005; McCarthy, 1999; Muller & Verschoor, 2006).

Operational risk exposure or economic exposure risk refers to the effect of competition and prices that change as exchange rates fluctuate, affecting the company's cash flow and, ultimately, its net present value (NPV) (Dong et al., 2014; McCarthy, 1999). This type of exposure is difficult to quantify and managers would be expected to have knowledge of the firm's future NPV if there were a change in the exchange rates (McCarthy, 1999).

2.1.4 Transactional risk

Goel et al. (2011 share that exchange rate fluctuations can be favourable or unfavourable, depending on the swing of the market. Sivakumar et al (2008) from their findings that longer the gap between contracting and closing, the bigger the risk of the fluctuation being unfavourable Forex rates act in an impartial manner, in response to fresh data in the market and this means that the reaction may be favourable to one contracting party and unfavourable to another. It is the random and uncontrollable nature of the market

that poses a risk for a firm that is exposed, they add. Bogicevic et al., (2016) advise that transactional risk exposure affects a firm's future cash flow and profitability. Soenen (1987) add that even a minor adjustment in the forex rate can have a substantial influence on the cash-flow of a firm. Kazaz (2014) supplement that in highly volatile markets, even high-performance firms with reasonable profit margin projections can make a loss on the exchange rate. Goldberg et al (2007) reveal that If firms do not exercise oversight and control over their foreign exchange risk management practices, they are likely to suffer substantial losses.

2.1.5 Studies on Questionnaires Based Survey Approach on Foreign Currency Exposure (FCE)

So far, several studies have been conducted by many researchers like Hakkarainen et al. (1998), Bodnar et al. (1999), Marshall (2000), Ceuster et al., (2000), Mallin et al. (2001) on analysis of exchange-rate exposure or currency exchange exposure management in non-financial firms through questionnaire-based approach. We present in the following paras chronological Review of past studies with respect to studies conducted by researchers through questionnaires-based survey approach on topics/ areas related to Foreign Currency Exposure (FCE) management.

2.1.6 Literature Review -Foreign Currency Exposure Risk Management

Belk and Glaum, et-al. (1990) reported the results of an empirical survey undertaken during 1988 on how UK multinational corporations try to manage their foreign exchange exposure. The study was based upon research conducted in 17 major UK industrial companies. Majority of the respondents feels transaction exposure management was seen a centrepiece of their foreign exchange risk management. Despite the financial literature demonstrating that accounting exposure is not a useful concept for foreign exchange risk management, the study found that a majority of companies were inclined

to manage their accounting exposure actively.

Batten, Mellor, et al. (1993) conducted industry-wide, cross-sectional study on foreign exchange risk management practice and product usage of large Australian-based firms. Results were discussed from an empirical field study of seventy-two firms operating in Australia. Study found that all firms hedged foreign exchange exposure. They found that Australian firms were using both physical and synthetic products to offset the cash flows generated by the firm's foreign operations and trade. The synthetic products used by these sample firms included futures, options, swaps and option products. The physical products included spot, forwards, forward forwards and short and long-term physical swaps.

Wai, et al., (1993) investigated through a survey of 61 listed companies in Singapore with an aim to find the general practice adopted in foreign exchange risk management. Investigation revealed that foreign exchange risk management is an integral part of the operations of many companies in Singapore. The results of his survey show that a majority of the companies, accounting for 75 percent, adopt a centralized foreign exchange management system; 85 percent of the respondents feel that they operate their treasuries as a cost centre; the survey results show that some of these companies are prepared to take risks by leaving some of their exposure un-hedged or by taking position in currencies. He reports that 92 percent of Singapore companies hedge their foreign exchange exposure on a case-by-case basis; only a negligible proportion goes for cent per cent exposure cover. Survey finds that short-dated forward contracts are the most widely used hedging techniques of Singapore companies; other derivative instruments like futures, options and swaps were not popular amongst the said companies.

Bodnar, et al., (1998) conducted a Wharton survey of financial risk management by 399 US non-financial firms. The results showed that foreign currency derivatives were the

most commonly used class of derivatives with 83 percent of derivatives-using firms utilizing them. The survey showed that the most frequently cited motivation for transacting in foreign currency derivatives markets was for hedging near-term, directly observable exposures. Results reveal that the majority of firms hedged less than 25 percent of their perceived exposure. This concluded that reducing the exposure was preferred over completely eliminating them. Study also revealed that options were less frequently used than forwards. Furthermore, they found that options were mainly used in long-term exposures. Firms avoided using options either because of the cost they incur in order to get the options or because they found another instrument that is better suited for the given exposure.

Stefan Nydahl, (1998) investigated the effect of exchange rate fluctuation on a firm's value called exchange rate exposure for a sample of Swedish firms. Authors found that a substantially larger percentage of firms in their sample were exposed to exchange rate changes compared to the results from studies using US data, and similar to the findings for Japan. These results seemed quite robust to alternative model specifications. Authors also found a positive, and statistically significant, relation between the estimated exposure and the ratio of foreign sales to total sales as well as the use of currency derivatives appeared to reduce the exchange rate exposure of firms.

Baba, et-al, (2000) explored a new aspect of currency exposure of Japanese firms with overseas operations. For the purpose of the study authors chose the firms classified in electric and precision machinery listed on the Tokyo Stock Exchange. This was because they are generally highly dependent on international operations such as exports, imports of primary materials, and overseas production. The number of the sample firms turned out to be 84, of which 74 firms belong to the electric machinery industry and the remaining 10 firms belong to the precision machinery industry. Empirical results show that in response to JPY's depreciation (appreciation), the values of the firms that are dependent on overseas production declined (rose) after controlling for the effects via

the dependency on exports and imported primary materials. The result is consistent with the prediction of the static version of currency risk exposure model.

Loderer,et-al (2000) conducted a survey of risk management practices of Swiss Industrial corporations. Study analysed whether Swiss firms are conscious of their currency exposure. They found that less than 40 percent of the firms are able to quantify their risk. They were able to come out with two major reasons to explain why firms did not measure their foreign currency exposure - it is difficult to measure the risk and firms believe their exposure is small. Study reveals that guaranteeing cash flows, reducing financing cost, simplifying planning, preventing losses and reducing taxes are the main reasons for managing currency risk. They found that most often transaction exposure is hedged by Swiss companies. Translation and economic exposures appear to be less important from their perspective. It was observed that firms often manage economic exposure by lending and borrowing in foreign currencies.

Brown (2001) conducted a detailed investigation of a firm's hedging operations and of its motivation for engaging in financial risk management. The analysis depended on primarily on a three-month field study in the treasury of firm. 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. Author found that several commonly cited reasons for corporate hedging are probably not the primary motivation for why the firm undertook a risk management program. Author also concluded that, Instead, informational asymmetries, assistance of internal contracting, and competitive pricing trepidations seem to motivate hedging and how the firm hedged, was depended on accounting treatment, derivative market liquidity, foreign exchange volatility, exposure volatility, technical factors, and recent hedging outcomes.

A. Belk (2002) reported the results obtained from three contemporaneous in-depth studies conducted with multinational corporations in the UK, the US and the Germany. The study largely focused on the organization of foreign exchange risk management, particularly the goals of exchange risk management, the centralization of decision making, and the nature of decision makers themselves. The study used semi-structured depth interviews to collect the data. The study concluded that the sample companies were generally risk averse. A very few UK based companies actively accepted the risks to increase their rewards. There was no clear formulation of goals, which made the performance evaluation of currency risk management difficult. Centralized decision making was predominantly prevailed among the majority of companies in all the three countries. Transaction exposure was predominant over translation and economic exposure among the sample companies. US based companies followed centralized decision making, whereas German companies' headquarters were strictly monitoring the decision making of German subsidiaries. In UK based companies, strategic and tactical level decisions were formulated at Board level or by senior treasury/finance personnel, whereas day-to-day decision making was done at subsidiary level.

Popov and Stutzmann (2003) investigated how two Swiss companies, Kudulski and Logitech manage their foreign exchange risk. They find that transaction exposure is the most managed foreign exchange exposure, but translation and economic exposures are not well identified and managed mainly because firms believe it is unnecessary or too complex. Study also reports that whenever possible netting is used by both the companies as it has no cost. Forward is the main external hedging instrument, as options are expensive tool to manage foreign exchange risk, both Kudulski and Logitech use it rarely. Finally, firms hedge their exposure but never fully due to the high cost of hedging

Abor (2005) reported on the foreign exchange risk management practices among Ghanaian firms involved in international trade. The study mainly focused on how Ghanaian firms managed their foreign exchange risk and the problems involved in

managing exchange rate exposure. It also sought to ascertain the extent of usage of foreign exchange risk management techniques by Ghanaian firms. The results of the study indicated that close to one-half of the firms do not have any well-functioning risk management system and also showed that just above forty-five percent of the sample firms, have neither department nor any one responsible for managing their foreign exchange risk. Foreign exchange risk was mainly managed by adjusting prices to reflect changes in import prices resulting from currency fluctuation and also by buying and saving foreign currency in advance. The main problems faced by firms were the frequent appreciation of foreign currencies against the local currency and the difficulty in retaining local customers because of the high prices of imported inputs which tend to affect the prices of final products sold locally. The Ghanaian firms involved in international trade exhibited a low-level usage of hedging techniques. The reason may be attributed to the low level of education and sophistication among the firms' treasury personnel and also because of the under developed nature of the financial markets.

Hagelin et al (2004) used survey evidence to compare Swedish and Korean firms' foreign exchange risk management practices. The findings of the study suggested that there were similarities and notable differences between the hedging practices of firms in both the countries. Korean firms hedged primarily to reduce cash flow volatility whereas Swedish firms' objective to hedge was to minimize fluctuations in accounting earnings. Derivatives usage was significantly lower in Korean firms than in the Swedish firms. Majority of firms in both the countries had used a profit-based approach to evaluate the risk management function. The decision to hedge foreign exchange exposure was strongly influenced by both the size of the firm and its foreign exchange exposure. The usage of internal hedging techniques more particularly matching of inflows and outflows was common among firms of both countries followed by inter-company netting in Swedish firms and leading and lagging in Korean firms.

Michael Papaioannou (2006) appraised the traditional types of exchange rate risk faced

by firms, i.e. transaction, translation and economic risks, presented the VaR approach as it was 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, including tactical versus strategical and passive versus active hedging. Author summarized a set of widely accepted best practices in managing currency risk and presents some of the main hedging instruments in the OTC and exchange-traded markets and provided some data on the use of financial derivatives instruments, and hedging practices by U.S. firms.

Tsui-Jung Lin et al (2007) investigated the relation among foreign exchange exposure, strategic resources and firm value for the Taiwan market. Even though there had not been any conclusive result from previous studies, it was suggested that exchange rate risk had an enormous impact on corporate operation and revenue as majority of the empirical results did not support the theory that fluctuation in exchange rate has a significant effect on a corporation. Therefore, the contradicted findings regarding the effect of exchange rate fluctuation on a corporation could be re-evaluated from the strategic resource point of view.

Salifu, et al. (2007) examined the foreign exchange exposure of listed companies on the Ghana Stock Exchange over the period January 1999 to December 2004. The study was based on the secondary data of 20 listed companies. Study revealed that, though there were a number of techniques such as balance sheet hedging, use of derivatives, leading and lagging amongst others available to manage foreign exchange risk in most developed countries, these measures tend to be rather too sophisticated and difficult to implement in developing countries like Ghana with undeveloped financial systems. Study concluded that, given the degree of exposure revealed, corporate managers and investors in Ghana should endeavour to apply a combination of simple tools such as the use of forward contracts and swaps to supplement price adjustments and investment in foreign currency in order to minimize their exposure to exchange risk. Despite the short-

comings of the financial system in terms of availability of tools for managing foreign exchange risk exposure, instruments were still available to manage the risk exposure.

Bartram (2008) concludes in his paper that the foreign exchange rate exposures of a large nonfinancial firm are based on proprietary internal data including cash flows, derivatives and foreign currency debt, as well as external capital market data. Their analysis illustrates that the insignificance of foreign exchange rate exposures of comprehensive performance measures such as total cash flow can be explained by hedging at the firm level. The results of the paper suggest that managers of nonfinancial firms with operations exposed to foreign exchange rate risk take savvy actions to reduce exposure to a level too low to allow its detection empirically.

Al-Momani et al. (2008) studied empirically the foreign exchange risk management practices of large Jordanian non-financial firms and examined the relationship between various factors such as firm size, sector of the firm, international business involvement, legal structure, presumed to affect the adoption of foreign exchange risk management techniques. The study used survey methodology and the sample included largest non-financial firms in terms of annual sales and annual income, operating in Jordan. The results of the study showed that sixty-six percent of the sample firms managed foreign currency risk with natural hedging techniques and usage of financial derivatives was not commonly practiced by Jordanian firms. Lack of knowledge about foreign exchange risk management, was the major obstacle in the usage of techniques by managers and other staff members of Jordanian firms

Debasish (2008) conducted an industry-wide cross-sectional study on foreign exchange risk management practices and derivative usage by large non-banking Indian firms. The study was exploratory in nature and the main objective was to understand the risk appetite and foreign exchange risk management practices of Indian companies. A survey method was used to collect the data and the sample included eighteen major industry

classifications. The study reported that fifty-three percent of total sample companies used derivatives and rest of the firms had mentioned that the most important factor which restrained them from using derivatives was perceived confusion about derivatives followed by difficulty in pricing and policy constraints.

Dash et al. (2008) tried to address the issue of foreign exchange risk management strategy that provides the superior results. They empirically used a set of simulated foreign exchange cash flows and compared the profits generated from different foreign exchange risk management strategies such as currency forwards, options, cross-currency hedges and also evaluated these strategies. The results of the study indicated that currency options resulted in highest mean returns for currency outflows, whereas for currency inflows forward contracts generated highest mean returns when exchange rates were on decreasing trend and cross currency hedging generated highest mean returns during cyclical variation in exchange rates and no hedging strategy yielded highest mean returns when exchange rates were on increasing trend. The study concluded that in managing foreign exchange risk firms can take advantage by using a combination of strategies.

Jain et al (2009) examined the practices and policies of foreign exchange risk and interest rate risk management followed by the corporate firms in India. The study used stratified sampling method to select samples, the sample included nonbanking and nonfinancial companies pertaining to three different types of ownership control such as government owned public sector firms, family owned private sector business houses or group firms and foreign controlled companies and used survey methodology to collect the primary data. The survey results revealed that sample firms are aware of risk management techniques and appreciably a large proportion of firms are using various techniques to manage risks. The study reported that more than four-fifth of sample firms managed the transaction risk and two-fifth of sample firms managed economic risk, while translation risk was the least managed risk. The study concluded that the adoption of risk

management techniques is still in infancy.

Al-Qaisi et al. (2012) investigated foreign currency exchange management and its significance in firms with foreign deals. The objective of this research was to study the management practices in Jordanian firms of foreign exchange management and its risk on these firms. A questionnaire was used to collect data using a stratified random sample. The results show that the firms interested with foreign currency exchange management as it forms more that 50% of its deals. Most of firms indicated that they have a policy for foreign exchange risk management depends on history records of exchange rate of JOD for US dollar.

Choi (2012) concludes in his research that firm's exposure differs by firm location, ex-rate type, and ex-rate changes size. The research findings encourage in-depth discussion on the importance of risk-hedging ability since firm-size, firm-location, ex-rate changes size are implicitly related to the ability. Quoting Choi & Jiang (2009) , the author suggests that various strategies for hedging exchange exposure risk are essential for all the corporate managers and policy makers in open economies to reduce economic uncertainties. He further suggests that the effect of hedging strategies on reducing exchange risk exposure needs to be evaluated with consideration of alternative control variables, such as, bond return.

Jantarakolica, T et al. (2012) intended to determine impact of exchange rate volatility on Thai export quantity in Textile and Garment products. The researchers, in order to correctly measure export volume, they have computed export quantity as dependent variable rather than export value. Exchange rate risk was determined using three different methods, that is , quarterly variance, Univariate GARCH model of spot exchange rate, and the bivariate GARCH models of spot and forward exchange rate. They have employed Panel data with fixed effects and random effects models to study the impact of export price and exchange rate risk on Thai export quantity and also included

subprime crisis as a dummy variable in measuring the impact. The estimated results indicated that the bivariate GARCH model was the most appropriate method in determining exchange rate volatility. The empirical results indicated that the Thai exports in textile and garment products are significantly influenced by its export price and exchange rate volatility, which implies that higher exchange rate volatility can cause reduction in export quantity.

Chang et al (2013) reveal in their research that earnings management activities of the firms, particularly those undertaken for the purpose of income smoothing, significantly reduce firm-specific exchange rate exposure. The study also adds that with understanding of specific exposure to exchange rate risk, firms can mitigate the exposure of their stock returns to currency risk through either accounting techniques or financial hedging. Their results also suggest that investors and analysts should exercise caution when utilizing accounting information to evaluate the exposure of firms to exchange rate risk.

Erol et al. (2013) witnessed the firms in emerging markets have more exposure to forex risk. One important insight by the author was with regard to poorly developed derivative market in emerging market for hedging the forex risk. Their study examined the determinants of forex risk exposure. The research was based on firms in Turkey and identified five major determinants of forex risk exposure. The findings of the study clearly indicated that because of lack of development in derivative market, the firms were not able to hedge their measurable forex risk.

Hrubošová & Kameníková (2013) conducted a study on hedging foreign exchange risk, mostly in small and middle enterprises. It was documented that many companies were facing Forex risk under difficult time of financial crisis. The study concluded that the trend of CZK/EUR in 2012 gives opportunity for using financial derivatives such as forwards, currency options and swaps to protect assets and liabilities against higher exchange rate

volatility. In the backdrop of this discussion, it can be stated that understanding of foreign exchange risk exposure and management is important for business firms, the companies providing hedging instruments and for the policy makers to devise strategies to minimize the Forex risk.

Omar (2014) aimed to evaluate the effectiveness of foreign exchange exposure on improving firms' financial performance to the financial institutions operating in Zanzibar. The research methodology used was survey research approach. A sample size of 50 respondents from 10 financial institutions, the methods of data collection involved both primary and secondary sources. The author found that there was inverse relationship of foreign exchange costs and payable to the net income and direct relationship to the net loss and direct relationship to the net income and inverse relationship to the net loss of the financial institutions operating in Zanzibar. Consequently, author concluded that the flexible of foreign exchange rate had an effect on foreign exchange costs and payables and foreign exchange revenue and receivable to the net income of the financial institutions operating in Zanzibar.

Dash Mihir et al. (2014) examine in their study the issue of foreign exchange rate exposure in the Indian information technology (IT) sector. In their study, the writer assesses the significance of foreign exchange exposure in the Indian IT sector. The authors also study whether there is still a significant difference in foreign exchange exposure between large-cap, medium-cap, and small-cap IT firms. The study is conducted on a sample of thirty Indian IT firms for the period 2009-12. The results of the study indicate significant positive foreign exchange exposure in the Indian IT sector, and decreasing foreign exchange exposure across large-cap, medium-cap, and small-cap IT firms, according to operational scale. The results also indicate a negative impact of foreign exchange exposure on profitability, with positive impact for large-cap IT firms. The study reveals that downward movements in the exchange rate would benefit small- and mid-cap IT firms but would adversely affect large-cap firms, and vice versa for

upward movements.

Lukose (2014) investigates in his study the exchange-rate exposure of S&P CNX 500 non-financial constituents during 2006–2011 and empirically evaluate the impact of the hedging strategies adopted by them. The research suggests that the usage of foreign currency derivatives and foreign currency debt significantly reduces firms' exchange-rate exposure. Smaller firms appear to have lower levels of exchange-rate exposure as compared to larger firms. A significant negative relationship between exchange-rate exposure and foreign currency derivatives supports the Hypotheses that firms use foreign currency derivatives for hedging and not for speculative purposes. These results are found to be robust to alternative ways of measuring foreign currency exposure, exchange-rate indices and estimation methods.

Lan, et-al (2014) investigated the need of hedging for all currencies exposure that a firm used. They also examined the discrepancy between cost-side and revenue-side exposures across two major financial crises for Taiwanese firms. Authors found that the exposure mainly came from the revenue side during the subprime crisis, while the Asian crisis happened from cost side. Authors presented an applicable implication that as long as the cost-based or revenue-based hedging strategy can acquire same hedging benefit and effectively reduce hedging cost.

Bergbrant,et-al, (2014) examined the effect of competition on exchange rate exposure using survey data from 55 countries. Authors employed probit model, and found that exposure increased significantly with an aggregate measure of the intensity of competition, a firm faces. Exposure was higher when firms faced price competition in international and domestic product markets and when rivals compete using an unfair financial advantage. They concluded that, competition was a leading determinant of exposure, dominating the usual determinants.

Elisabeth et al (2015) investigated foreign currency loans by unhedged borrowers against whether the demand for foreign currency loans was driven by a lack of knowledge about the exchange rate risk emanating from such loans. They employed individual-level survey data from eight Central and Eastern European countries that provided information on agents' knowledge about exchange rate risk. They found that a majority of respondents was aware that depreciations increased loan instalments and knowledge about the exchange rate risk exerted a strong impact on the choice of the loan currency.

Belghitar et al (2016) find in their study that foreign exchange exposure of SMEs has a significant effect on their performance. The researchers study the difference between the "good" exposures which increase returns, and the "bad" exposures which reduce returns and observe that "bad" exposures dominate across all currencies. They further suggest that the SMEs, associated with factors not directly associated with foreign operations, are prone to bankruptcy costs than the large corporate with foreign exchange exposure. Based on their findings the researchers strongly put arguments in favor of SMEs' undertaking hedging activities. With regard to obtaining training for undertaking such activities, findings suggest that conducting in house programs on hedging may be costly and the potential benefits available to may not be large enough to offset these costs. Their research suggests that it might be more profitable for SMEs to look for a solution outside the firm.

Bishev et al (2016) share findings of their research stating that the exchange rate exposure of a firm is positively related to firm size, foreign ownership, foreign trade activity and FX indebtedness. In terms of sectors, the highest the ratio of firms exposed to exchange rate changes is found in the manufacturing sector, but in transportation and trade sectors the ratio is also higher than average. They observed that the majority of companies interviewed by them were not prepared for changes in the exchange rate. On the basis of their answers, most of SMEs with exchange rate exposure do not assess their exchange rate exposure or deal with its magnitude, and generally believe that they have

no exchange rate exposure or that it is negligible. Foreign exchange debt, as a means of natural hedging, may reduce exchange rate exposure, but if foreign exchange indebtedness is motivated by the reduction of costs (i.e. payment of lower interest rates upon borrowing, for example), the exchange rate exposure of the enterprise will grow. Half of firms with non-zero CM gave answers, based on which it is clear that they are not aware of the existence of exposure or deem it to be insignificant. About 50% of these firms do not expect the exchange rate to affect any of the aforementioned variables. The other half of this group said they had exposure, but they do not manage it or the answers are contradictory. For example, firms answered that they had no exposure but expected they would be influenced by a change in the exchange rate. As an instrument to mitigate foreign exchange risk can serve the following rule - if the company does not generate income in the same currency as the loan is, repayment capacity of the loan should not exceed 50-60% EBIT of the company.

Joshi H, (2016) investigated to measure various foreign exchange exposures like FX Operating Exposure, FX Net Cash Flow Exposure, and FX Equity Exposure for Indian exporting and importing firms. FX Equity Exposures were calculated by considering the respective firm's FX Operating Exposures, financial leverage, and use of foreign currency/home currency debt using regression between actual stock returns and percentage changes in FX value of foreign currency. Regression based estimation presented were the post hedging position of FX equity exposures, while calculated FX equity exposures were based on raw data, without considering the off-balance sheet hedging instruments like forwards, futures, options and currency swaps. Author found that regression based method yields significantly lower value of FX equity exposure in comparison to the operating exposure based method.

Ito, et-al (2016) explored the association between Japanese firms' exposure to the exchange rate risk and their risk management. They found that firms with greater dependency on sales in foreign markets had greater foreign exchange exposure, and the

higher the US dollar invoicing share, the greater the foreign exchange exposure was, which could be reduced by both financial and operational hedging. Authors also found that, yen invoicing reduced foreign exchange exposure.

Prasad K (2016) attempted to measure the level of exchange rate exposure of the firms in India. A sample of 76 non-financial companies listed in CNX 100 index of NSE was selected as sample and the data for a period of one year is being studied. Authors found that 21% of the sample firms were significantly exposed to foreign exchange risk out of which 25 percent had positive coefficients and 75 percent of the firms had negative coefficients. 57 percent of the firms from Software and IT industry and 15 percent of the firms from mining, refinery and petroleum industry were significantly exposed to foreign exchange risk.

Belghitar et al (2016) investigated the effect of floating exchange rates on the performance of UK small and medium sized enterprises authors used an innovative technique that separates XR exposures into those that increased stock market returns and those that reduce them. The method provided evidence that SME exposure to exchange rate fluctuations differed significantly in sign and magnitude from that of the largest 250 UK firms and proved that XR fluctuations were transmitted to the individual firm exposures through their effect on the SMEs' competitive environment, which was generally negative. Author found that SMEs were generally unable to overcome the negative competitive effects introduced by the floating exchange rate. Both depreciations and appreciations of the exchange rate had a predominantly negative effect on returns for all SMEs, for all years and for all industries and there was no difference between exporters and non-exporters at any conventional level.

Omar et al (2017) reinvented the studies that investigated the exposure to currency risk of different economies. Both developing and developed economies had been considered to this study. Authors concluded that most of the emerging and developing economies

were exposed to higher level of foreign currency exposure because of high level of openness and large amount of import and exports. In contrast, almost all closed and developed economies exhibited low level of exposure due to low amount of import and exports.

2.1.7 Literature Review - Hedging Strategies

Bodnar et al (1998) conducted a survey of derivatives usage by US non-financial firms. Authors surveyed and collected data from 350 US firms where 176 from the manufacturing sector, 77 from the primary products sector which includes agriculture, mining, and energy as well as utilities, and 97 from the service sector. Through the analysis of theses surveyed firms they found that 76 percent of all derivatives users in their survey manage foreign exchange risk using some foreign currency derivative or the other. This percentage made foreign currency derivatives the most commonly used class of derivatives among the surveyed respondents. Among the types of foreign currency derivatives, the firms use, the forward contract is the most popular choice. More than 75 percent of firms ranked the forward contract as one of their top three choices among foreign currency derivative instruments with over 50 percent ranking it as their first choice. They also concluded through this survey that OTC options were also a popular foreign currency derivative instrument, with about 50 percent of the firms choosing this as one of their top choices. Among the remaining instruments, swaps and futures are the most popular among limited market conditions.

Grant et al (1997) conducted a survey of large UK companies to ascertain their usage of derivatives. They examined the extent of derivatives usage, the reasons behind their usage, the perceived risk associated with derivatives, the control mechanism to monitor the derivatives used and the reporting practices which governed the usage of derivatives. The results of the survey indicated widespread usage of derivatives like swaps, forwards and options. The primary reason for their use was to manage interest

rate and currency risks. Authors also found that the use of derivatives was accompanied by significant control mechanism within the companies and treasurers were using sophisticated methods to quantify their exposure to derivatives before they were reported at board level.

Allayannis et al (1998) investigated the usage of foreign currency derivatives for hedging or speculative purpose by the firms. Authors sampled S&P 500 non-financial firms for the year 1993. Authors found that the firms used currency derivatives for hedging purpose as per their requirement to reducing the exchange rate risk and the decision taken by management were based on the exposure factor of currency. They also found that the level of derivatives used dependents only on a firm's exposure through foreign sales and trade.

Ceuster et al (2000) documented the survey results of large Belgium non-financial firms about their derivatives usage. They have found that around sixty-six percent of total sample firms used derivatives. The most important reason for hedging was earnings volatility. The survey results showed that seventy percent of sample firms hedged current contractual commitments and sixty-eight percent of firms hedged anticipated transactions up to one year. Belgium firms extensively used symmetric products such as forwards and swaps to manage currency risk, compared to asymmetric products such as options and swaps. They have concluded that eighty-six percent of sample firms have risk management policy, which was formulated by the board of directors or by the executive committee in consultation with the treasury department, whereas forty-four percent of sample firms' risk management policy was formulated by the treasurer. Seventy percent of the firms characterized their treasury departments either as service or cost centre, whereas only fifteen percent see their treasury department as profit centre. Thirty-seven percent of sample firms valued their derivative positions on a monthly basis. The study showed that there was no much importance for performance measurement of the treasury departments.

Makar (2001) examined the association between firm value effects and exchange rate changes in relation to the use of short-term foreign exchange derivatives for US multinationals. The study demonstrated that the use of foreign exchange derivatives plays a significant role in understanding the lagged market response to changes in exchange rates. The results of the study showed that the lagged firm value effects of exchange rate changes are particular to companies with low foreign exchange derivative use relative to their foreign sales, and the magnitude of such foreign currency exposure decreases monotonically across all foreign exchange derivative groups. The study results also demonstrated that multiple lagged exchange rate changes contribute to explaining the abnormal returns of low foreign exchange derivative users, irrespective of firm size or degree of foreign involvement and the magnitude of lagged foreign currency exposure is inversely relative to foreign exchange derivative use.

Baranauskas et al (2003 studied the state of currency exposure management in largest Lithuanian companies and examined whether the usage of currency derivatives corresponds to the economic situation in Lithuania. The study revealed that currency derivatives were not popularly used by exporting firms, even though they faced considerable currency exposure. Firms explained that the most important reason for not using derivatives was high cost of derivatives, which was also corroborated by the model. The model demonstrated that there existed a weak relationship between volatility of cash flows and fluctuations of currency exchange rate and suggested that firms should try other alternatives to decrease the volatility of cash flows. The results implied that currency exposure management was not optimal and companies seemed to lack practical experience in using derivatives and complexity of accounting standards as well added for less usage of derivatives. The results of the model showed that on the industry level usage of derivatives may not be advantageous.

Alkeback et al (2006) investigated Swedish non-financial firms usage of derivatives in the year 2003 and compared the results with their earlier study conducted on similar sample

of Swedish firms in the year 1996. They have used survey methodology and used a similar questionnaire to compare the results. the 2003 study found that the frequent use of derivatives was to hedge contractual commitments. The most common reason cited for not using derivatives is insufficient exposure to financial risk, followed by costs of hedging exceed the expected benefits, and exposures effectively managed by other means. The other findings of the study include that OTC forwards and swaps are the most popular derivatives instruments among Swedish firms and most of the large firms have used OTC forwards whereas small firms used exchange traded products such as futures more commonly to manage foreign exchange exposure. The principal use of derivatives is for hedging purpose and mostly to hedge anticipated transaction of less than one year, followed by contractual commitments and anticipated transactions of more than one year. The primary objective of using derivatives is to reduce the volatility in accounting earnings. In the 2003 study, the financial directors of the sample firms are more concerned about accounting treatment, followed by transaction costs, and liquidity risk. The derivatives activity was reported to board of directors, quarterly. Lastly, almost every firm that used derivatives managed their foreign exchange exposure.

Marshall et al (2006) examined foreign exchange hedging of Norwegian exporting firms and provided empirical evidence on the determinants of the hedging decision. The study found that at-least one or more foreign exchange hedging instrument was used by seventy percent of sample firms. Large firms had higher hedging activity and used wide range of hedging instruments. The most widely used internal and external hedging instruments are matching/netting and currency forward contracts respectively. The Norwegian exporters using foreign exchange instruments both internal and external to hedge their foreign exchange exposure are found to have higher market-to-book ratios, less diversified investors, and a number of specific corporate financial characteristics, compared to non-hedging exporters. The overall results provided evidence in support of the firm value maximization hypotheses of underinvestment and risk aversion, which is

consistent with most of the empirical studies conducted in other countries. However, the study found no evidence that firms' hedge to reduce the costs of financial distress or to avoid the need for costly external financing. The study concluded that characteristics of firms such as size, extent of internationalization and liquidity are found to be related to the decision to hedge foreign exchange risk.

Bartram et al (2006) investigated the using options in risk management activities. The study reasoned out that options are particularly useful hedging tools in the presence of nonlinear exposures resulting from corporate cash flows that are uncertain and a nonlinear function of the risk factor, as they offer a nonlinear payoff profile. In the end, the study suggested that differences in the accounting treatment of derivatives as well as liquidity effects have to be considered in determining the choice of derivative instrument.

Anand (2008) examined motivation for the management to use foreign currency derivatives in corporate India; they compared the significant differences, if any, in the motivation of the firms which either did use foreign currency derivatives or had a documented foreign exchange risk management policy in place, with those which had not. They also examined the motivation behind the use of foreign currency derivatives in a factor-analytic framework. Most of the respondent firms (70.4 percent) had documented foreign exchange risk management plan/policy/programme. Transaction exposure as a foreign currency risk was more critical to the firms (74.5 percent) followed by translation exposure (58.3 percent manifested a moderate degree of risk) and economic exposure (54.3 percent manifested a low degree of risk). Author also examined that to reduce the volatility in profit after tax, cash flows, risks and the cost of capital, managements thus increased the value of the firm. Author found that firms with a high debt ratio were more likely to use foreign currency derivatives and the major objective of using derivatives was hedging the risk (96.1 percent ranked it as the number one objective), arbitrage (55.3 ranked it as number two objective) and price discovery (36.4

percent assigned it rank two and 33.3 percent assigned it rank three). Speculative objective was the least preferred option (62.1 percent assigned rank four).

Akshatha (2013) investigated the history and growth of derivatives in Indian markets, perception of investors, how derivatives help in managing risk by hedging and how can capital market increase the use of derivatives. In the first place, history regarding evolution of derivatives market has been explained with the help of recommendations of Dr. L. C. Gupta, which explains the change in the perception of risk management from 1980s. Further, hedging strategy using futures and options has been explained in the modern frame of complex and risky businesses and analysis on various factors has been performed to assess the investors interested in derivatives. Results of the study demonstrated that derivatives market have and will further boost the global as well as Indian economy. Therefore, there is need to develop it in the right direction with the support of government, regulators and exchanges by educating investors. Most commonly used derivatives are forward, future and options.

Chong et al (2013) conducted a study and the objective of research was to delineate the factors influencing the use of financial derivatives by non-financial firms in managing their exchange rate exposure. In total, 219 non-financial firms were surveyed in regard to their financial hedging decision. This study was conducted via a survey and the questionnaires were sent to the treasurers and financial controller of the firms. Descriptive analysis was employed to assess the profiles of the respondents. Then, factor analysis is carried out to determine the factors influencing the use of financial derivatives in Malaysia. The results indicated that the hedging decision of non-financial firms is influenced by their assertive level toward the market and regulators and also how flexible they are for derivative instruments. The intellectual capability that firms acquire to perform hedging strategies is also vital in influencing them to make hedging decision.

Bodnar et al (2013) examined the derivative usage (both Interest rate and currency) by

Italian firms, including the determinants of currency and interest rate derivative use with respect to currency and firm size, geographical location, rating, industry, access to capital markets and education management. A questionnaire related to the usage of derivatives instruments in risk management and practices associated with risk management was sent through online method to 464 non-financial firms operating in Italy. The study reveals that The manufacturing sectors mainly opt for the use of the foreign currency derivatives, while the most usual interest rate derivative is the interest rate Swap. The dominance of the interest rate derivatives and currency derivatives indicates the dominance of the small business and large clusters in the northern region.

Soniya et al (2013) investigated the operational concepts of financial derivatives and analyzed the profit/loss position of futures buyer and seller. Numerous studies on the effects of futures and options listing on the underlying cash market volatility had been done in the developed markets but in India there was no significant study was done to understand the use of derivative as hedging tool. The derivative market was newly started in India and it was not known by every investor, so by this work authors propagated advantages of use derivatives as a risk aversion tool for Indian investors. Author found derivatives as a hedging tool played an important role for all listed companies on NSE.

Kumar et al (2013) examined the learning derivatives and types of currency derivatives in order to understand currency futures and its advantages over forward contract. Study concludes that Currency futures can be effectively used for hedging the currency risk. It further states that forwards contracts are often confused with future contracts. But using Currency futures in place of Forwards provides edge in elimination of risk. Some distinct advantages are Price transparency, Eliminating the counterparty risk, Low cost and Access to larger market. It evaluates that forward contract locked the exchange rate for a particular period of time, foregoing any harm or benefit of a weakening or strengthening the currency. Whereas in hedging using the future contract, one not only

fixes its losses but also gives the opportunity of earning maximum profits. The last part of the study explains how every Exchange has to prepare the Risk Management mechanism for currency derivative segment.

Worasinchai (2013) focuses on the management attitude towards the currency hedging strategy. Management attitude has been related with the exposure to foreign currency transactions and time period of planning. The major focus of the study to identify the management attitude towards hedging depends upon the company's foreign transaction exposure and the planning horizon for the strategies will be impacted by the attitude of management (Risk taker or Risk avoider). Data was collected from three companies operating in Thiland and data was collected through survey questionnaire, semi- structured interview, and document review method.

Chong et al (2014) study factors influencing the execution of financial hedging by non-financial firms in Malaysia. Survey data are used to seek for the feedback from the market players in order to provide empirical evidence on the corporate use of financial hedging. In their study of 219 non-financial firms they investigate that the hedging decision of non-financial firms is influenced by their assertive level toward the market and regulators and also how flexible they are for derivative instruments. The intellectual capability that firms acquire to perform hedging strategies is also vital in influencing them to make hedging decision.

Raghavendra et al (2014) focused on currency hedging practices of 100 IT firms in India. The questionnaire was constructed on some of the prior studies/surveys on similar topic in other countries. The result revealed that foreign exchange risk is the most important financial risk faced by IT firms and forward contract was the most preferable contract for mitigating risk of Indian IT firms. The study indicated that contracts maturing in 6-12 month were the average time horizon for use of currency hedging instruments by Indian IT firms. It was found that difficulty in quantifying underlying exposure from operations

was the most important concern when considering the use of currency hedging and it was found that Indian IT firms perform analysis for short term predictions of exchange rates for engaging of currency hedging activities. In addition, it was found that the general attitude of Indian IT firms was fairly risk averse in practicing currency hedging.

Ochieng (2016) examined the effect of foreign hedging practices on financial performance of non-financial firms listed at the Nairobi Securities Exchange. This study adopted a descriptive design as the study needed to establish the effect of foreign hedging practices on financial performance of non-financial firms listed at the NSE. The study targeted a population of all 39 listed non-financial firms at NSE in Kenya. Authors found that employees were concerned about the financial performance so as to enhance the whole organizations performance. They also found that swaps, currency futures, options and forward contracts influenced financial performance of non- financial firms positively and training had increased efficiency and job satisfaction among the employees hence the organizational performance at large.

2.2 Conclusion

This literature review explored a number of aspects of foreign exchange risk exposure. Authors agree that foreign currency exposure poses challenges both for large and small entities engaged in international business activities. While large firms walk over the tide by putting suitable hedging strategies in place, SMEs find themselves unable to make rounds around the FCE risks and protect their interests. Literature is abundant on the strategies, used by large firms to manage their foreign currency exposure risk, however little is available with respect to FCRM of small and medium enterprises.

The review started by unfolding how firms become exposed to foreign exchange risk, how it impacts on business and how it can be managed.

Different authors indicated that most firms involved in international trade will have some

kind of foreign exchange exposure risk, with transactional risk being the most common against all firms. It is the most likely to impact on small and medium enterprises.

The authors made it clear that firms need to have strategies in place that involve policy formation and evaluation, in order to control their foreign exchange risk to meet their risk-management objectives.

Keeping in view the limitations of the literature available on management of risks from forex risk management by SMEs, this study offers valuable exploratory insights into the strategies that SMEs use to manage foreign exchange risk.

In the next chapter theoretical concepts and practical implications of FCE Risks is presented, which provide the background for the entire study.

3. Chapter - Theoretical Concepts and Practical Implications

In the previous chapter, literature survey and review were conducted to explore the objectives of the study. The present chapter covers theoretical concepts and Practical Implications of FCE Risks

3.1.1 Background

Derby (2014) state that while undertaking international business and services activities, both importers and exporters face two big baskets of risks. The first is business and economic risk and the second is market risk i.e. risks arising, inter-alia, from volatilities in foreign currency exposures etc.

3.1.2 Business and Economic Risks

From the basket of business and economic risks, exporters and importer both suffer from country risk and commodity risk.

3.1.3 Country Risk

Exporting and importing entries face Counterparty Risk both from buyer and seller being

- Geographically separated
- Not known to each other
- Different legal and political systems
- Different languages
- Living in different currency areas

3.1.4 Commodity Risk

Risk of not receiving the goods of

- Agreed Quantity,
- Agreed Quality,
- Packed properly

Kula (2005) states that risk from foreign currency exposure is an inherent risk for any export or import firm, irrespective of their size. McCarthy (1999), Choi (2012) add that SMEs/ small entities tend to be more vulnerable to foreign-exchange fluctuations, as they have fewer risk-hedging abilities than their counterpart large enterprises. Gibson et al. (2008) add that SMEs)/ small corporates often lack sophistication to deal with foreign exchange exposure arising from their overseas business activities and find themselves sometimes at risk in volatile markets. Over the years, Indian SMEs/ corporates have been putting together strategies and processes diligently and largely successfully to deal with business and economic risks. However, they have found themselves unable in dealing effectively with risks arising from currency fluctuations. Volatility in foreign currency exposure, currency fluctuations have directly impact their bottom line. Especially, adverse currency fluctuations which not only impact their profitability but also operating efficiencies. With weaker capital base and tighter budgets than their counterpart larger firms, SMEs get more affected from adverse currency fluctuations. Adverse currency movements not only impact their balance sheet but also jeopardise their commercial strategy for international trading activities. Negative currency fluctuations also impact their bottom-line on making provisions on the items in FCE maturing or having cash flows over the period of next five years in compliance with the relevant Indian Accounting Standards.

3.2 What is Foreign Currency Exposure

Theoretically, corporates are exposed to currency risks on account of their foreign currency exposure in three different categories: economic exposure, transaction exposure, and translation exposure (Moffett et al 2009; Grath, 2004 ; Miller 1998).

Transactional risk or exposure risk arise from cash flow risk, Translational risk, results from the consolidation of group and subsidiary balance sheets, and Economic risk emanates from the change in the present value of future operating cash flows as a result of

unexpected changes in exchange rates.

Eifman and Stonehill (1986) and Shapiro (1991) define the three types of foreign exchange exposure 'as:

3.2.1 Translation Exposure

Translation Exposure occurs due to accounting based changes in consolidated financial statements caused by exchange rate changes.

3.2.2 Transaction exposure

It occurs when exchange rates change between the time that an obligation is incurred and the time it is settled, thus affecting actual cash flows.

3.2.3 Economic exposure

Economic Exposure reflects the change in the present value of the firm's expected future cash flows as a result of an unexpected change in exchange rates.

Exporters/ importers sell/ receive products/ services and in turn receive/ pay value in foreign currencies. Fluctuations in the value of the foreign currency receivable/ payable affect the profitability of the exporting/importing business entity. Between importer and exporter, people contend that currency fluctuations hit more to exporters than importers. They add that if INR appreciates and USD depreciates, overseas buyers pressurise exporters to renegotiate their prices and bring those down as the fluctuations in the negotiated currency(USD) have increased their margins and they would be fetching more INR against the USD.

Nonetheless, a few stand upon in favour of importers also. Putting forth that in the event of currency fluctuations and if extends for a bit longer period, importers do not know

whether or not book a forward sell at the rate at that moment because if they do so they might end up losing in doing so. Hence, they carry opportunity loss with them.

Technically, risk arising from currency fluctuations is referred to as Exchange risk. Exchange risk confines to the potential loss that may arise after acquiring an exchange position or quoting a price to a counter party and before covering the same in the market.

3.3 What are Foreign Currency Exposure (FCE) Risks

Apte (2006) defines that Foreign exchange / Currency exposure is the sensitivity of changes in the real domestic currency value of assets, liabilities or operating income to unanticipated changes in exchange rates. Foreign Currency Exposure of an entity, enterprise, firm, corporate refers to the gross sum of all items on the balance sheet that impact their profit and loss account due to movement in foreign exchange rates. In the competitive world where imports and exports are integral part of the businesses, entities face variability in their foreign currency cash flow and are affected more when there is negative exchange rate variation. Adverse currency movements not only impact their balance sheet but also jeopardise their commercial strategy for international trading activities. Negative currency fluctuations also impact their bottom-line on making provisions on the items in FCE maturing or having cash flows over the period of next five years in compliance with the relevant Indian Accounting Standards.

Yeo and Lai (2004) stated in their research that SMEs having international exposure are more exposed to foreign exchange risk in comparison to large sized firms. Over the years, Indian SMEs/ corporates have been putting together strategies and processes diligently and largely successfully to deal with business and economic risks. However, they have found themselves unable in dealing effectively with risks arising from currency fluctuations. Volatility in foreign currency exposure, currency fluctuations have directly impact their bottom line. Especially, adverse currency fluctuations which not only impact their profitability but also operating efficiencies. With weaker capital base and tighter

budgets than their counterpart larger firms, SMEs get more affected from adverse currency fluctuations.

3.3.1 How FCE Risks crop up

Conventionally, currency risks of corporates/ firms occur on account of their –

- engagement in imports or exports business activities
- purchasing or selling products with prices stated in foreign currency
- incurring various costs/ capital expenditure, denominated in foreign currency
- major portion of incomes, revenue from exports, royalties, interest, dividends etc. being in foreign currencies
- borrowing or lending funds repayable in foreign currencies
- valuation of business operations or subsidiaries in foreign currencies

3.3.2 Severity of FCE Risks

The magnitude of FCE risks depend upon varied cash flows, exchange rates and interest rates movements. FCE risks increase or decrease on account of

- Impact of interest rate fluctuations, implementation of measures like QEs, Greece impact etc. in international markets
- Fluctuations in parity value of INR in international currency markets.
- Volatility in clients' domestic currency
- Attitude of individual overseas customers
- Time lag between first down payment and last payment
- Strategies adopted by the corporates/ SMEs for selecting hedging instruments, Swap, Options, Forward etc.
- RBI's intervention in the forex market increases cost of hedging. When RBI intervenes in both spot and forward currency markets to stabilize the INR then

either rupee depreciates or appreciates. In both the situations hedging cost increases.

3.3.3 Impact of FCE risks

Impact of currency fluctuations, especially when carrying negative exchange rate variations, may have devastating results. Normally, large and multinational corporates are aware of various currency risks, take preventive measures and deploy suitable hedging techniques for mitigation. Whereas most of the SMEs fail to perceive foreign currency risks in time and face volatility in cash flows.

3.4 Risks from Credit facilities extended by Bankers to Exporters/ Importers

3.4.1 Background

Post liberalisation, privatisation and globalisation era cross-border controls on movement of capital, technology, goods etc., have been liberalised across the globe. Corporates in India have also widened their operations to produce and sell goods across a wider spectrum of markets to succeed in increasingly competitive environment.

Growing competition and continuous technology upgradation have forced the countries, especially from emerging market to keep pace with technologically advanced and economically developed products of their global competitors for sheer survival.

In India, export/ import trading activities are also promoted, monitored and to some extent regulated also by various government and regulatory agencies. With a view to give level playing field to the Indian SMEs/ corporates, particularly to meet parity in scale of operations, GoI, RBI, EXIM Bank, and other similar agencies facilitate them in all respects including paving way for easy access to their funding requirements in INR as well as in foreign currency through different Indian and overseas agencies/ institutions.

We present in the following paras the major aspects of foreign currency exposure of SMEs/ corporates including theoretical concepts, regulator aspects, internal concerns and risks etc. both from the SMEs/ corporates borrowers' and bankers' point of view.

3.4.2 Funding Options for Exporters/ Importers

There are so many funding options available both in foreign currency and domestic currency (INR) to Indian importer/ exporter for meeting their credit requirements (Table-3-1) :

Table 3-1 Foreign Currency Funding Options

Options	**Platforms**	**Facilities**
Foreign Currency funding Options from Overseas agencies	Equity Route	Depository Receipt (ADR or GDR)
	Private Equity	Alternative Investment Market etc.
	Debt Route	External Commercial Borrowings Foreign Currency Loans from FCNR (B) Funds (FCNRB Loans) Export Credit in Foreign Currency (PCFC, EBR)
	Hybrid Route	Foreign Currency Convertible Bonds (FCCB) Foreign Currency Exchangeable Bonds (FCEB)
Funding Options from Indian agencies	Banks/ FIs	Pre-Shipment Finance in domestic currency (INR) Post Shipment Finance in domestic currency (INR) Export Bills Rediscounting (EBR). Exporters Gold Card Scheme of RBI. Execution of Bid Bonds Advance Payment Bank Guarantees Performance Guarantees Establishment of Letters of Credit Arranging Lines of credit in foreign countries Export Credit to SEZ units

3.5 An Overview of Major Credit Facilities to Exporters/ Importers by Indian Banks

In India, Banks extend both fund based and non-fund-based credit facilities to enterprises engaged in international business activities. In the following paras we discuss important features of a few major credit facilities allowed by the banks to the entities engaged in international business. We also discuss the risks factors arising from FCE of these segments of borrowers from bankers' point of view.

3.5.1 Credit Facilities for Export Purposes

Exporters need financial assistance for both before and after shipment of goods / rendering of services. Long bank in 1967, RBI allowed Banks to extend finance to export oriented industries through short-term working capital facilities. Banks allow credit facilities for export of manufactured goods, raw materials, semi-finished and finished goods, project exports, export to technology services, export of computer software etc. They extend credit facilities primarily through working capital and term loan in INR as well as foreign currency. While working capital finance is allowed for short terms period i.e. for upto 6 months, medium and long-term finance is allowed beyond 6 months.

The credit facilities to export constituents is allowed through Pre-Shipment Finance, Post-Shipment Finance, buyers' credit, lines of credit, bank guarantees etc. in the following paras we discuss the major features of Pre- Shipment finance including FCE risks attached to it.

3.5.2 Major features of Pre- Shipment Finance

Pre-Shipment finance, also known as "Export Packing Credit (EPC)" is extended to eligible exporters by way of working capital for purchase of raw materials, processing, manufacturing, packing, transportation and warehousing of goods prior to shipment or meeting working capital expenses towards rendering of services. The major features of

pre shipment credit facilities are as under (Table- 3-2) :

Table 3-2 Major features of Pre- Shipment Finance

Features	Characteristics
Nomenclature	Packing Credit in Foreign Currency (PCFC), Rupee Export Packing Credit (EPC)
Purpose	For purchase of Raw Materials, Processing, Manufacturing & Meeting Expenses upto Shipment of goods against LC / Firm Order
Rate of Interest	Concessionary- as per government and other authorities' directives. Availability of duty draw back facilities
Quantum of Finance	Upto 90% of LC / Order value
Period	For a period of maximum 270 days. Depends on working cycle period / order to order / running account facility
Liquidation of credit facilities	Self-Liquidating through proceeds from export realisation or by extending post-shipment finance through Bills Discounting/ EBR
Hedging facilities	Under Rupee EPC- Forward contract can be booked against export proceeds
	Under PCFC, forward contract can be booked for disbursement of credit facilities. PCFC is allowed in hard currencies viz USD, EURO, GBP, JPY.

3.6 Assessment of FCE Risks: Pre-Shipment Finance

Table 3-3 Pre- shipment Finance- Risks-from Bankers' point of View

Constructs/ Events	Concerns/ Risks	Requirements/ Risks Category	Risk Severity
Merchant Trade Transactions requirements- Obtaining KYC	Ensuring that KYC formalities including Risk Categorisation as prescribed by RBI has been completed in all respects and due	Regulatory (KYC/ AML) requirements/ Operational Risk	High

details-	diligence has been exercised.		
Merchant Trade Transactions requirements - FEMA declaration	Compliance with the FEMA guidelines on Trade credits for exporter	FEMA/ Operational Risk	High
Merchant Trade Transactions requirements- Permission of goods as per Foreign Trade Policy (FTP)	Ensuring goods involved in the transactions are permitted for export under the prevailing Foreign Trade Policy (FTP) as on the date of shipment and all the rules, regulations and directions applicable to export (except Export Declaration Form) are complied with.	Regulatory requirement/ Operational Risk	High
Declaration on Merchant Trade Transactions	Declaration by the exporter with respect to details of purchase order/ contract of services to be offered.	Regulatory requirement/ Operational Risk	High
Merchant Trade Transactions requirements	Obtaining opinion reports on buyers for ensuring safety of export proceeds realisation.	Operational Risk/ Regulatory requirement/(for the facilities extending beyond the prescribed limit).	High
Declaration on Merchant Trade Transactions	Undertaking by the exporter that credit facilities have not been availed from any other Bank against the subject purchase order/ contract of services.	Regulatory requirement/ Operational Risk	High
End use credit facilities extended	Ensuring proper end use of the funds, allowed at concessional rates of interest and for meeting specific purpose of export.	Operational Risk/ Regulatory requirements with respect to concessional interest and DDB facility)	High

Disbursement of credit facilities extended	Disbursing credit facilities as per the terms of conditions of purchase order/ LC or the requirements of the importer.	Operational Risk/ Credit Risk/ Regulatory requirement/ (for the facilities extending beyond the prescribed limit)	High
Merchant Trade Transactions requirements	Adherence to time schedule and quality for supply of goods/ services as per contracts' terms, failing which the entire consignment may be rejected or order may be cancelled.	Credit Risk/ Operational Risk	High
Merchant Trade Transactions requirements	Exporter submitting certificate issued by Inspection Council of India, certifying goods/services fit for export.	Regulatory requirement/ Operational Risk	High
Merchant Trade Transactions requirements- Submission of documents	Ensuring authenticity of shipping bill, primarily with respect to no diversion of funds	Operational Risk/ Credit Risk	High
Merchant Trade Transactions requirements- Submission of documents	As per extant instructions, shipping documents should be submitted to the Bank by the exporter within 21 days after shipment. In case of delay, exporter need to give proper reason and banks to satisfy themselves with respect to end use of funds and credit risk	Operational Risk/ Credit Risk	High
Merchant Trade Transactions requirements	Obtaining ECGC Coverage for political and commercial risks.	Operational Risk/ Credit Risk	High

3.7 Credit Facilities for Import Purposes

Banks allow credit facilities for import purposes through following products:

- Foreign Letter of Credit (FLC)
- Standby Letter of Credit (SBLC)
- Suppliers' Credit i.e. credit extended by overseas supplier for imports in India
- Foreign Currency Loans
- External Commercial Borrowings (ECB)

3.7.1 Credit Facilities for Import Purposes- Assessment of FCE Risks

Table 3-4 Credit Facilities for Import Purposes- Assessment of FCE Risks

Constructs/ Events	**Concerns/ Risks**	**Requirements/ Risks Category**	**Risk Severity**
Merchant Trade Transactions requirements- Obtaining KYC details-	Ensuring that KYC formalities including Risk Categorisation as prescribed by RBI has been completed in all respects and due diligence has been exercised.	Regulatory requirement/ Operational Risk	High
Merchant Trade Transactions requirements - FEMA declaration	Compliance with the FEMA guidelines on Trade credits for imports.	FEMA/ Operational Risk	High
Merchant Trade Transactions requirements-	Ensuring that importing entity does not maintain multiple current accounts	Regulatory (KYC/ AML) requirement/ Operational Risk	High

Merchant Trade Transactions requirements-	Ensuring goods involved in the transactions are permitted for import under the prevailing Foreign Trade Policy (FTP) as on the date of shipment and all the rules, regulations and directions applicable to import (except Bill of Entry) are complied with.	Regulatory requirement/ Operational Risk	High
Merchant Trade Transactions requirements-	Ensuring that imports under negative list have been made through proper import licence	Regulatory requirement/ Operational Risk	High
Merchant Trade Transactions requirements-	Concerned bank to verify about the documents like invoice, packing list, transport documents and insurance documents and satisfy itself about the genuineness of the trade.	Regulatory requirement/ Operational Risk	High
Merchant Trade Transactions- routing of transactions	Ensuring that both the legs of a Merchant trade transaction are routed through the same AD/ Bank.	Regulatory requirement/ Operational Risk	High
Merchant Trade Transactions- time frame	Ensuring that entire Merchant trade transactions are completed within an overall period of nine months and no outlay of foreign exchange is observed beyond four months.	Regulatory requirement/ Operational Risk	High
Merchant Trade Transactions- Opening of LC	Ensuring that at the time of opening of L/Cs, various FEMA guidelines, EXIM policy guidelines/ UCPDC 600 / FEDAI/ ISP98/ Uniform Rules for Bank to Bank Reimbursements are complied with.	Regulatory requirement/ Operational Risk	High

Merchant Trade Transactions requirements- Remittance	Ensuring that in terms of extant regulations, remittances against imports are to be made in not later than six months from the date of shipment, except in cases where amounts are withheld towards guarantee of performance, etc.	Regulatory requirement/ Operational Risk	High
Merchant Trade Transactions requirements- Submission of Returns	Various returns are forwarded to RBI in time and when there is no transaction in a particular period, a Nil Return is submitted.	Regulatory requirement/ Operational Risk	High

3.8 Credit Facilities for Import Purposes - Post-Shipment Finance

Post Shipment Credit is extended to eligible exporters after shipment of goods or rendering of services till the date of realization of export proceeds as per the guidelines prescribed by RBI/FED. Post-Shipment Finance is allowed after shipment of goods by way of Negotiation/ Purchases/ Discount of Bills till the maturity of export bills (Table- 3-5).

Table 3-5 Major features of Post- Shipment Finance

Features	**Characteristics**
Nomenclature	Foreign Bills Negotiation / Purchase / Discounting in Rupee (FBD) (Rupee), Export Bill Re-Discounting (EBR)
Purpose	Finance against evidence of shipping documents till the maturity of export bills
Characteristics of FBD	Liquidation by export proceeds – by conversion in INR
Characteristics of EBR	Post-shipment credit in FCY (EURO, GBP, JPY, USD) Liquidation by export proceeds – without conversion
Rate of Interest	Concessionary- as per government and other authorities' directives.

Quantum of Finance	Upto 100% of invoice value
Period	For a period of maximum 180 days.
Liquidation	Self-Liquidating through proceeds from export realisation
Hedging facilities	Forward contract can be booked for Foreign Bills Negotiation / Purchase / Discounting in Rupee (FBD) and Export Bill Re-Discounting (EBR)

3.9 Assessment of FCE Risks: Post-Shipment Finance

Table 3-6 Post-Shipment Finance – Risks from Bankers' point of View

Constructs/ Events	**Concerns/ Risks**	**Requirements/ Risks Category**	**Risk Severity**
Merchant Trade Transactions requirements- Liquidation of pre-shipment finance	Pre-shipment credit should be liquidated from the proceeds of relevant purchased/ discounted/ negotiated export bill.	RBI/ Regulatory norms	High
Merchant Trade Transactions requirements- Submission of documents	In case of despatch of original documents directly by the exporter to foreign buyer, RBI directives specify that only government recognized export houses are eligible for sending original documents directly to foreign buyer.	Regulatory requirement/ Operational Risk/ Credit Risk	High
Merchant Trade Transactions requirements- Receipt of Advance Payment and Cancellation of Export bill	Ensuring in case if a particular order/ export bill against which advance payment has been received, is cancelled. Then the outstanding would be liquidated with the proceeds of any other export bill drawn on some other importer either in the same country or in any other country.	Operational Risk	Medium
Merchant Trade Transactions requirements-	In terms of RBI guidelines, export proceeds should be received within the prescribed time limit (presently- 180	Credit Risk/ Operational Risk/	Medium

Receipt of Goods by the buyer	days). However, at times, buyers deliberately refuse to accept and pay for goods after shipment by twisting the terms of contract, raise disputes and demand discounts.		
Merchant Trade Transactions requirements- Receipt of export proceeds	With regard to receipt of any part payment/ advance payment, exporter is required to furnish complete details along with documentary evidence to the Bank	Credit Risk/ Operational Risk/	Medium

3.10 Management of Foreign Currency Exposure Risks

Risk management is about planning, organizing, directing, and controlling organization systems and resources to achieve objectives (McNamee,1997). Management of risks from foreign currency exposure involves planning, organizing, directing, and controlling systems and resources of the firm to respond FCE risks smoothly. The process involves:

- Identification of foreign exchange exposures and its value
- Identification of various Types of Foreign Currency Exchange Rate Risks
- Measurement of Foreign Currency Exchange Rate Risks
- Decision for hedging or not hedging
- In case of hedging-creating offsetting position through derivatives
- Measurement hedging ratio and deciding acceptable level of risk
- Initiating suitable steps with respect to, inter-alia, future movement of exchange rates to manage cash flows.

FCE risks are uncertain, unpredictable and volatile market scenario creates the need for hedging. Hedging is a risk management technique, or an approach primarily undertaken to protect risks against volatility of exchange rates. Experts advise that hedging is not about gaining or losing rather it is about fixing the price risk, like freezing the volatility occurring

on account of interest rates, commodity prices, currency, etc. Hedging is an insurance and the purpose of hedging is, not to make profits but to reduce or minimise risks.

"Hedge is a way of protecting oneself against financial loss or other adverse circumstances" – Oxford Dictionary

"A hedge is an investment position intended to offset potential losses that may be incurred by a companion investment. In simple language, Hedge (Hedging Technique) is used to reduce any substantial losses suffered by an individual or an organization." – Wikipedia

Management of FCE risks through hedging is undertaken by way of Operational hedging and Financial hedging.

Operational Hedging is management of risks through internal resources, including natural hedge. Whereas **Financial Hedging** is management of FCE Risk through alternative external hedging strategies and techniques

Aabo et al., (2010), Choi (2012) and Muller et al. (2006) state that foreign currency exposed firms adopt both operational hedging strategies and financial hedging strategies to reduce their risk of exposure. Experts advise that operational and financial hedges complement each other and prudent organisations make their combined use to mitigate currency risks.

Implementation of an effective foreign exchange hedging strategy offers undeniable benefits for corporates and also helps in

- Transferring risks
- Stabilizing cash flows
- Discovering future as well as current prices
- Reducing income variability in case of exchange rate swings
- Reducing cost of capital, increasing valuation of the company, by enhancing the predictability of FCE hedging results

Experts contend that selecting appropriate hedging strategy requires knowledge, skill, method and is significantly influenced by firm size (Block & Gallagher, 1986; Booth, Smith, & Stolz, 1984; Nance, Smith, & Smithson, 1993; Warner, 1977). Hedging of foreign currency exposure is undertaken through various hedging strategies:

3.11 Hedging strategies

Eaker et al. (1987), Morey et al. (2001) Moosa (2004) advise that exporting SMEs need to acquire sufficient understanding of forex risk management while increasing exports. Findings from previous studies reveal that most of the small and medium enterprises do not have a proper understanding of forex risk management and hedging techniques. Experts contend that at times these entities might not recognise natural hedging techniques as serious ways to manage forex risk, while thinking that using currency derivatives is too complicated for them. If these enterprises understand the use of internal hedging strategies better, they may be able to adopt an effective hedging technique, in spite of not knowing much about the use of external hedging techniques. However, industry experts add that it will be much better for these SMEs if they are able to use external hedging techniques also, in case of need.

3.11.1 Selective hedging

is undertaken where firms choose hedging if forward rates are at a premium. Premium (Large premia) hedging strategy is undertaken when forward rates are at a historically large premium. This happens when forward exchange rates and spot exchange rates move apart and spot exchange rates and future/forward exchange rates become quite different. Corroborating on a relative Purchasing Power Parity (PPP) exchange rate, firms hedge when the current spot rate is above the PPP equilibrium.

3.11.2 Hedge-no-hedge strategy

In adhering to this strategy, firms undertake hedging when the estimated exchange rate is higher than the forward rate for a short position, but lower than that for a long position.

3.11.3 No hedging strategy

Corporates do not adopt any measures to cover their exchange rate risks. Ehrlich et al. (2008) define this least costly foreign exchange management strategy, however they contend that no hedging strategy is best used when minor fluctuations in foreign exchange are forecasted by the firm. Moosa (2004) also adds that if foreign currency exposure is regular over a long period of time and there is no significant difference in the performance of three strategies, no hedge, always hedge and hedge-no-hedge. McCarthy (1999) endorses the views that no hedging strategy notion a.k.a. purchase price parity, states that exchange rate fluctuations are 'a zero sum game' as a change in prices will offset the change in the exchange rate.

3.11.4 Types of Hedging Instrument

Accounting Standard 30 defines hedging instrument / asset as under

"A hedged item is an asset, liability, firm commitment, highly probable forecast transaction or net investment in a foreign operation that (a) exposes the entity to risk of changes in fair value or future cash flows and (b) is designated as being hedged (Paragraph 8 of Accounting Standard 30)".

"A hedge taken by way of a forward contract can be of two types, namely Cash flow hedge or Fair value hedge. A hedge of the foreign currency risk of a firm commitment may be accounted for as a fair value hedge or as a cash flow hedge. (Paragraph 97 of Accounting

Standard 30)".[1]

3.11.5 Fair Value Hedge

is a hedge of the exposure to changes in fair value of a recognised asset or liability or an unrecognised firm commitment, or an identified portion of such an asset, liability or firm commitment, that is attributable to a particular risk and could affect profit or loss (Paragraph 86 of AS 30).

3.11.6 Cash Flow Hedge

is a hedge of the exposure to variability in cash flows that Is attributable to a particular risk associated with a recognised asset or liability (such as all or some future interest payments on variable rate debt) or a highly probable forecast transaction and could affect profit or loss (Paragraph 86 of AS 30).

3.12 Hedging Techniques

From cash flow management to coordinated use of suitable hedging techniques are required for FCE risk management. Hedging techniques are not meant for speculation but to minimise P&L volatility and secure future cash flows.

FCE risks hedging techniques entail implementing of two types of strategies- internal strategy and external strategy. Both internal and external hedging are used to improve the firm's ability to respond to foreign currency risks. Eaker & Grant, (1987), Joseph, (2000) suggest in their findings that foreign currency risk may be hedged with internal and

external techniques.

- Internal Hedging Techniques (Operational Hedging)
- External Hedging Techniques (Financial Hedging)

3.13 Internal Hedging Techniques (Operational Hedging)

Entities adopt internal hedging strategies/ techniques by exploring and exploiting internal resources. Internal hedging strategy aka operational hedging may be defined as the use of a firm's own systems and resources e.g., funds, goods within the firm to maintain favourable balance sheet positions whereas external hedging strategy involves use of contractual obligations with external parties (buyers and sellers) to the firm (Mathur,1985).

Keeping in view 'to protect the rate, at a cost', Internal hedging strategies are undertaken by entities. The major features of Internal hedging strategies may include:

- Invoicing exports in domestic currency (INR)
- Invoicing exports in a hard currency viz. USD, Euro etc.
- Negotiating domestic currency(INR) pricing for imports
- Matching inflows and outflows with respect to timing of settlement.
- Matching foreign currency trade payments/ receipts against receipts/ payments in the same foreign currency
- Adjustment clause in sales/purchase contracts- Entering into an agreement with the clients for sharing currency risk
- Leading and lagging- Inter-company netting of receipts and payments
- Leading and lagging- Adjustment of payments/ receipts to/ from third parties
- Leading and lagging- Netting through cross hedging, using cash flows in different currencies to offset each other

3.14 External Hedging Techniques (Financial Hedging)

External strategies are undertaken by enterprises to protect their revenue through their bankers through the products available at OTC and through the exchange traded instruments available through forex/ commodity exchanges for. Financial Hedging or external hedging techniques are based on the philosophy of 'keeping adequately hedged against all currency fluctuations by taking shelter of derivative instruments'. Through external hedging strategies, entities neither intend make gain from any windfall, when rupee depreciates, nor they like to risk their margin when rupee appreciates.

3.14.1 Financial Hedging- Assessment of Funding Requirements

Fluctuations in the value of the foreign currency receivable/ payable affect the profitability of the exporting/importing business entity. To face FCE risks, SMEs/ corporates stick to hedging strategies, particularly financial hedging. Financial hedging is undertaken, primary through derivatives products. Banks sanction in favour of their borrower Credit Exposure Limit (CEL) for undertaking derivative exposure.

3.14.2 Credit Exposure Limit (CEL)

The CEL is assessed and sanctioned at the time of sanctioning regular credit limits. CEL is sanctioned for both Contracted (Documentary Evidence) and Probable exposures (Past Performance).

3.14.3 Contracted Exposures

Assessment of Contracted Exposures is made on the basis of documentary evidences submitted by the borrower. That is where the borrower has undertaken such activities and documentary evidences to that effect are available.

3.14.4 Probable Exposures

Whereas Probable Exposures of the borrower is assessed on the basis of his Past Performance in the derivative segment.

For assessment of Credit Exposure Limit (CEL), exposures are calculated on basis of credit conversion factor methodology.

3.14.5 Assessment of Contracted Exposure

Credit Exposure Limit (CEL)=
Current Credit Exposure (CCE) + Potential Future Exposure (PFE)
where
CCE = Sum of the Negative MTMs to the customer (+ve MTMs to be ignored) of the outstanding contracts
and
PFE = Notional Principal * Credit Conversion Factor (CCF)

CCF is based on nature of instrument and residual maturity

Table 3-7 Credit Conversion Factor

Residual Maturity	**Conversion Factor applied on notional Principal amount**	
Nature of Instrument/ Residual Maturity	Interest Rate Contracts etc	Exchange Rate Contracts (Forward, Options)
1 year or less	0.5%	2.0%
Over 1 year to 5 years	3.0%	3.0%
Over 5 years	15.0%	15.0%

Whenever there is negative MTM under current credit exposure, banks ask corporates/ SMEs to bring in the cash margin / collateral or under exceptional circumstances banks may

set up additional limits for the purpose.

In the following Table 3.8, 3.9 and 3.10 we furnish the major features of Contracted Exposure and Probable Exposure as well the major risks from bankers' point of view, attached thereto :

Table 3-8 Major features of Contracted Exposure and Probable Exposure

Criteria	**Products**
Contracted Exposures is considered where the borrower has undertaken such activities and documentary evidences to that effect are available	Forward Contracts
	Cross Currency Options (Non-INR)
	Foreign Currency –INR Options
	Foreign Currency –INR Swaps
	Cross Currency Swaps
	Interest Rate Swaps
	Forward Rate Agreement.
Probable Exposures of the borrower is assessed on the basis of his Past Performance in the derivative segment.	Forward Contracts
	Cross Currency Options (Non-INR)
	Foreign Currency –INR Options
	Cost Reduction Structures
The other **major factors** are: Limits can be sanctioned to the extent of underlying exposure that is available. All forward contracts booked to cover foreign exchange exposures falling due within one year can be freely booked and cancelled. All forward contracts booked to cover current account transactions regardless of tenor can be freely booked and cancelled	
Special Dispensation for SMEs Segment RBI Directives has allowed special dispensation for SMEs segment. In terms of these guidelines SMEs can book their forward contracts on Declaration Basis i.e. without producing underlying documents or underlying exposures or any past records of export or	

import, and upto 100% of the limit for hedging their direct / indirect exposure to foreign exchange risk. SMEs are also permitted to freely cancel and rebook the contracts. SMEs are also permitted to use foreign currency rupee options for hedging their exposures. Such contracts may be booked through AD Category – I banks with whom the SMEs have credit facilities and / or banking relationship and the total forward contracts booked should be in alignment with the credit facilities availed by them for their foreign exchange requirements or their working capital requirements or capital expenditure.

3.14.6 Challenges/ Risks attached with Contracted Exposure

Table 3-9 Challenges/ Risks attached with Contracted Exposure

Constructs/ Events	**Concerns/ Risks**	**Requirements/ Risks Category**	**Risk Severity**
Evidencing Underlying Exposure	Banks to establish existence of Underlying Exposure through evidencing the documents of underlying assets	Regulatory requirement/ Operational Risk/	High
Evidencing Underlying Exposure	Where original documents pertaining to the exposure cannot be obtained, copies duly certified by the authorized signatory of the company should be obtained and kept on record.	Regulatory requirement/ Operational Risk/	High
Declaration with respect to exposure	Before booking contract, banks are required to obtain an undertaking from the corporates that the same underlying exposure has not been covered with any other AD/ bank.	Regulatory requirement/ Operational Risk/	High
Declaration with respect	Where hedging of the same exposure is undertaken in parts with more than one	Regulatory requirement/	High

to exposure	Bank, details of such amounts already booked with the other bank should be clearly indicated in the declaration.	Operational Risk/	
Declaration with respect to exposure	Customers are also required to furnish a certificate from their statutory auditor of the borrower that contracts outstanding at any point of time during the quarter did not exceed value of underlying exposures.	Regulatory requirement/ Operational Risk/	High
Contracts features-submission of documents	Corporates/ SMEs are required to furnish documents for underlying exposure within 15 days. They need to be advised that non-submission may entail cancellation of the contracts booked and gains, if any, will not be passed on.	Regulatory requirement/ Operational Risk/	High
Contracts features-submission of documents	If the borrower commits defaults in non-submission of documents with in the specific 15 days for more than three times in a financial year, this 15-days facility may be withdrawn and booking of contract will made by the banks only after production of underlying documents	Regulatory requirement/ Operational Risk/	High

3.14.7 Challenges/ Risks attached with Probable Exposures

Table 3-10 Challenges/ Risks attached with Probable Exposures

Constructs/ Events	**Concerns/ Risks**	**Requirements/ Risks Category**	**Risk Severity**
Probable	Forward Contracts, Cross Currency	Regulatory	High

Exposures based on Past Performance	Options (Non-INR) Foreign Currency –INR Options Cost Reduction Structures	requirement/ Operational Risk/ Credit risk	
Eligible Notional Exposure	Average of last three years turnover or last year's turnover, whichever is higher	Regulatory requirement/ Credit risk	High
Eligible Limits	The forward contracts booked in the aggregate during the year and outstanding at any point of time should not exceed the eligible limits	Regulatory requirement/ Operational Risk/ Credit risk	High
Contracts features	Contracts booked more than 75% of eligible limit will be on deliverable basis and cannot be cancelled implying that in the event of cancellation, the exporter / importer shall have to bear the loss but will not be entitled to receive the gains.	Regulatory requirement/ Operational Risk	High
Contracts features	If outstanding Forward Contracts are higher than 50% of the limit, importer is required to furnish a CA certificate to the Bank that all guidelines are adhered to.	Regulatory requirement/ Operational Risk	High
Declaration with respect to maturity of contract	Importers and exporters should furnish an undertaking to provide documentary evidence before the maturity	Regulatory requirement/ Operational Risk	High
Declaration with	Importers and exporters should	Regulatory	High

respect to amount booked with other Banks/ ADs	furnish declaration regarding amounts booked with other ADs.	requirement/ Operational Risk	

3.15 Instruments of Financial Hedging - Forex Derivatives

In common parlance, a forex derivative represents an agreement whose value depends on the value of the underlying foreign exchange rates. The Foreign Exchange Management (Foreign Exchange Derivative Contracts) Regulations defines foreign exchange derivative contract to mean

- a financial transaction or an arrangement in whatever form and by whatever name called, whose value is derived from price movement in one or more underlying assets, and includes:
- a transaction which involves at least one foreign currency other than currency of Nepal or Bhutan, or
- a transaction which involves at least one interest rate applicable to a foreign currency not being a currency of Nepal or Bhutan, or
- a forward contract

Foreign exchange derivative contract does not include foreign exchange transaction for Cash or Tom or Spot deliveries. Most forex derivatives are traded over-the-counter (off-exchange) or on an exchange such as the Bombay Stock Exchange (BSE), National Stock Exchange (NSE).

Derivatives may broadly be categorized as "Lock" or "Option" products. Lock products, such as forwards, futures or swaps, obligate the contractual parties to the terms over the life of the contract. Whereas Option products, such as options, covered options, interest rate swaps provide the buyer the right, but not the obligation to enter the contract under

the terms specified.

The derivatives that are into the flesh of Indian corporates included, apart from cost-reduction structures, transformation of rupee loans into foreign currency loans. One of the commonly used structure was transformation of a rupee loan into a foreign currency by a principal-only swap, and then hedging the risk of that currency by options. The economic driver of these contracts is the interest rate parity theory which holds that differences in interest rates in two currencies are neutralized by changes in exchange rates. By transforming the loan into a foreign currency, a user may stand to gain a regular carry or saving in interest rate. However, the user carries the risk of the foreign currency into which the loan has been transformed. This exposure may be hedged. To this hedging again, derivatives' structurers used cost reduction devices - hence the hedge was coupled with several knock-out conditions. In other words, by swapping the loan amount into foreign currency, the user created a new risk – the risk of the currency in which the rupee loan was swapped, and then that risk was hedged, though ineffectively, with several option contracts.

A significant feature of regulations in India is that hedging is permitted only for an underlying transaction exposure, and not for a derived exposure. Quite often, derivatives are used to transform a rupee liability into a liability into a foreign currency, and the hedge such exposure. However, Indian regulations have not permitted hedging of such transformed or derived exposures.

3.16 Derivatives Instruments Permitted in India

RBI has list out the following derivatives products in Schedule I of Foreign Exchange Management (Foreign Exchange Derivatives) Regulations that users may enter into

- Forward contracts to hedge an exposure to risk for a transaction which is permitted under the Act

- Forward contracts to hedge economic exposure in respect of such transactions as may be prescribed by the RBI.
- Interest rate swaps, currency swaps, coupon swaps, etc. to hedge loan exposure, and unwinding of such hedges.
- Cross currency forward contracts to convert balances in FCNR (B) accounts from one currency into another.
- Option contracts to hedge foreign exchange exposure. The proviso to this clause mentions that in case of "cost effective risk reduction strategies like range forwards, ratio-range forwards or any other variable by whatever name called there shall not be any net inflow of premium."

Most popular and preferably used products by the users are forward contracts and options contract. Forward contracts are available only in OTC market while options contracts are available both in OTC and on the exchanges' trading platforms.

Apart from these, a few more derivative instruments viz. futures contracts on the exchanges and different swap agreements like currency swaps, interest rate swaps, etc., are also available for hedging.

3.17 Risks attached with Derivative Instruments-

The entities like to hedge their exposure through derivative instruments so as to ensure that the projected cash flows match their expectations irrespective of the fluctuations in the foreign currency. However, it is easier said than done. Hedging risk through derivative products also carry risks, a few of which are delineated in the following Table 3.11:

Table 3-11 Risks attached with Derivative Instrument

Risk Constructs	**Concerns/ Mitigations Measures**

Currency Risk	SMEs/ Corporates hedge their currency risk normally through forwards, futures, swaps or options etc. Experts opine that if a particular hedging transaction is not undertaken against advance payment or if a particular transaction value is more than 15% of total net income or expense in foreign currency of the respective trade transaction, it may entail currency risk. Because in case currency fluctuations, the value of trade will be affected and major portion of the transaction will be at price risk.
Legal & Accounting Compliance	Like any other financial transaction, derivative transactions are also subject to fulfilment of various legal and regulatory requirements. Besides, Ind AS 31 also stipulate compliance of various accounting requirements.
Tax Risks	Derivatives transactions have different income tax implications, which depend upon the nature of business activities of the corporates and the transactions in question.
Volatility risk	Volatility risk reflects the speed at which asset prices fluctuate. The more rapidly prices changes, the more volatile the asset is said to be. As a prudent risk management initiative, SMEs should factor volatility variables to predict price ranges of their derivatives transactions.
Management Risks	Derivatives are complex instruments and difficult to value, hence ongoing monitoring is required. Before entering into a derivative hedging transaction, SMEs/ corporates need to ensure that they have adequate supervisory procedures and analytical systems in practice for hassle-free monitoring of their derivatives exposure.
Familiarity with the products	Lack of familiarity with derivative products deter SMEs/ corporates to undertake hedging through derivative products. But as against the popular concept of taking derivatives as complex products, most of the derivative instruments are constructed from two basic instruments, forwards and options, which does not require any rocket science skills to understand.

3.18 Selection of Derivative Instruments

Hedging currency risk exposure involves developing risk management strategies, and taking well-timed hedging decisions. SMEs select hedging instruments keeping in view their availability, flexibility and cost.

We present in the following paras major features of a few most widely used hedging instruments:

3.18.1 Forward Contract-

In financial terms, a forward contract or simply forward, is a customized contract between two parties, where settlement takes place on a specific date in future at a price agreed today.

The party agreeing to buy the underlying asset in future assumes a long position, and the party agreeing to sell the asset in future assumes a short position. The price agreed upon is called the delivery price, which is equal to the forward price at the time the contract is entered into. In other terms, forward contracts allow locking in of a pre-agreed exchange rate for a pre-agreed date. The major features of forward contract as following (Table-3.12).

3.18.2 Major Features of Forward Contract

Table 3-12 Major Features of Forward Contract

Definition	Forward contract is a contract between two parties (an exporter or an importer and a bank/AD) to buy or sell a specific quantity of currency at a specified rate and a specified time.
Purpose	To hedge the exposures of the corporate against adverse movements in the currencies. A forward contract can be obtained only in the OTC

	market though AD/ Bank.
Requisites	Bank set up a Derivative limit (Credit Exposure Limit) in favour of the borrower on the basis of his Contracted Exposures/ Probable Exposures. Contracted Exposures is reckoned where the borrower has undertaken earlier such activities and documentary evidences to that effect are available. Whereas Probable Exposures of the borrower is assessed on the basis of his three years' Past Performance in the derivative segment. **Special Dispensation for SMEs** RBI has allowed special dispensation for SMEs segment whereby SMEs can book their forward contracts on behalf of their clients on Declaration Basis i.e. without producing underlying documents and upto 100% of the limit. However, clients are required to submit a certificate from their Chartered Accountant to this effect to their bank. Banks are also required to ensure that the outstanding in the overdue export bills of their clients are within the ceiling of 10% of the export turnover.
Cancellation & Re-booking of forward contracts	Banks allow their customers to execute forward contracts in respect of all current as well as capital account transactions with a residual maturity of one year or less. As per RBI guidelines, banks also allow corporates, who have actual or anticipated foreign exchange exposures, to book foreign exchange forward contracts up to US$ 250,000 on the basis of a simple declaration without any requirement of further documentation.

3.18.3 Advantages/ Disadvantages of Forward Contract

Table 3-13 Advantages/ Disadvantages of Forward Contract

Advantages	Disadvantages
Simple	No chance of participating in market volatility
Easy to use	Profit/loss crystallized on the date of booking
Liquid	The upside and downside (opportunity profit/loss) theoretically unlimited
Transparent	INR based forwards demand and supply dependent

3.18.4 Forward Contract -Risks from Banks' Point of View

Table 3-14 Forward Contract -Risks from Banks' Point of View

Constructs	Concerns/ Risks	Requirements/ Risks	Risk Severity
Risks attached with cancellation and rebooking of forward contracts	Though RBI has allowed freely cancellation and rebooking of all forward contracts with residual maturity of one year and less. However, all non-INR forward contracts are rebooked on cancellation only in cases where the corporate has submitted the exposure information as prescribed by RBI	Regulatory requirement/ Operational Risk	High
Cancellation of contract	Contracts booked in excess of 75 percent of the eligible limit shall be on a deliverable basis and cannot be cancelled. That is, in the event of cancellation, the exporter/importer shall have to bear the loss but will not be entitled for any gain.	Regulatory requirement/ Operational Risk	High
Contract for	ADs/ Banks have to ensure that	Regulatory	High

Advance Remittance against Exports.	forward contracts are not booked for Advance Remittance against Exports.	requirement/ Operational Risk	

3.18.5 Why SMEs/ Corporates avoid hedging through Forward contracts

The foremost reason for avoidance of hedging through Forward contracts by SMEs/ Corporates is levying of margin and service charges on the forward premium by the Banks/ ADs. These charges become the cost for the hedger, which they avoid paying. For example, at the moment, there is a premium of around 4.5 per cent on USD-INR forward. If the spot price of rupee is 65 against the dollar, then the forward rate would be 67.93. The difference of 2.93 (67.93-65) per dollar will be the forward premium. On this premium (2.93), bank levy margin and service charges, which will be the total cost of hedging, comprising of premium plus bank's margin and service charges.

Taking note from the calculation of hedging cost hereinabove, if the rupee appreciates to 64 or 63 in the next six months, then taking forward contract today will give the exporter a better rate of 67.93 after six months when the spot rate would be 64 or 63. But conversely, if the rupee depreciates to 70 in the next six months, then it is a loss as the exporter had locked the rate at 67.93.

Exporters earn the forward premium while they hedge by selling the dollar whereas importers pay the premium when they buy dollar. Forwards protect the hedger from volatility whenever the currency price moves adversely, but do not give the flexibility to change the rates if needed. So, they avoid hedging through Forward contracts.

3.18.6 Option Contracts

Foreign currency option contracts provide buyer of the contract the right, but not the obligation to execute foreign exchange transactions at a future date. The maximum loss to a holder of an option is the premium paid, which is paid up front.

3.18.7 Major Features of Option Contracts

Table 3-15 Major Features of Option Contracts

Purpose	To hedge the exposures of the corporate against adverse movements in the currencies. Options are available both in OTC as well as the exchanges.
Requisites	The customer needs to pay upfront premium. ISDA Documentation and CAS categorization must be completed for the customer.
Description	Customer buys options at predefined strike rates by paying up front premium. By paying the premium the customer buys right but not the obligation to convert the exposure at a rate. If the market moves in favour of the customer, he can let the option expire and take the market. If the market moves against the customer, then he will exercise the option.

3.18.8 Options -Risks from Banks' Point of View

Table 3-16 Options -Risks from Banks' Point of View

Constructs	**Concerns/ Risks**	**Requirements/ Risks**	**Risk Severity**
Risks attached with booking and cancellation of contract	The purchaser of an OTC option remains in bit more comfortable position than its counterpart forward contract buyer/seller, when he is able to offset or exercise the option or allow the option position to expire. If the purchased option expires worthless, he may suffer a total loss of his investment i.e. option premium paid plus transaction costs.	Regulatory requirement/ Operational Risk	High

Risks attached with settlement of contract	Although the premium received by the option seller is fixed, the seller may sustain loss well more than the premium. If market moves unfavourably, the option seller may be liable for additional margin to maintain. The seller will also be required to settle the option transactions in cash.	Regulatory requirement/ Operational Risk/	High
Cost attached and fear of incurring loss	For instance, an importer fears that the rupee could depreciate sharply by March 18, say, below INR 70 against the dollar If an option contract is available at, say, 68.5 for December, the importer can buy a call at 68.5 and hedge himself against a sharp fall in the rupee. However, if rupee appreciates to, say, 63 by March 18, which is contrary to the earlier expectations, the importer need not execute the option and instead buy from spot market to meet his obligation.	Operational Risk/ Credit Risk	High
Cost attached and fear of incurring loss	However, like forwards, premium charged in option contracts, brokerage and other exchange related charges are to be paid upfront which increases the cost of hedging for the buyer/seller.	Credit Risk	High

3.18.9 Other Features of Options

The advantage that a firm gain from using options is that it can let options expire if the foreign currency fluctuations turn out to be a disadvantage. This flexibility allows them to take advantage of the upside and hedge against the downside, and this is what makes options expensive (McCarthy, 2000) The pitfall is that the firms have to pay a deposit and might never utilise the option (Goldberg & Drogt, 2007).

3.18.10 Covered Options

Earlier writing of options by Indian entities on a stand-alone basis was not permitted and only simultaneous buying and selling of plain vanilla European options was allowed, subject to no net receipt of premium. In 2016, RBI vide its circular no. 431/2015-16/ dated 23.06.16 has allowed resident exporters and importers of goods and services to write (sell) standalone plain vanilla European call or put option contracts against their contracted exposure, i.e. covered call or covered put respectively to encourage participation in the OTC currency options market and improve its liquidity.

However, the companies with a minimum net worth of INR 200 crore are eligible for covered options contract.

3.18.11 Major Features of Covered Options

Table 3-17 Major Features of Covered Options

Purpose	To hedge the exposures of the SMEs/ corporate against adverse movements in the currencies. Options are available both in OTC as well as the exchanges.
Eligible entities	Listed companies and their subsidiaries/joint ventures/associates having common treasury and consolidated balance sheet or unlisted companies with a minimum net worth of INR 200 crore, if these companies provide appropriate disclosures in the financial statements as prescribed by the Institute of Chartered Accountants of India (ICAI).
Permitted options	Covered options (either as a single FCY-INR option or as separate options for the FCY-USD and USD-INR legs) may be written (sold) by resident exporter or importers against their underlying contracted exposures arising out of their exports or imports, respectively. However, the use of covered option shall not be considered as a hedging strategy.
Period	Covered option contracts may be written for a maximum maturity period of 12 months.

Underlying:	Covered options may be written against either a portion or the full value of the underlying.
Structure derivative product	The covered option being a combination of an underlying cash instrument and a generic derivative product, should be treated as a structured derivative product.

3.18.12 Covered Options -Risks from Banks' Point of View

Table 3-18 Covered Options -Risks from Banks' Point of View

Constructs	**Concerns/ Risks**	**Requirements/ Risks**	**Risk Severity**
Banks to obtain Internal Approval from their Board etc.	Banks may undertake covered options transactions on behalf of their constituents only after obtaining specific approval in this regard from their competent authority, i.e. their Board, Risk Committee, etc.	Regulatory requirement/ Operational Risk/	High
Capital and provisioning requirements	As per RBI guidelines, banks are required to treat exposures against covered options as an 'unhedged exposure' and accordingly need to comply with the guidelines on Capital and Provisioning Requirements for Exposures to entities with Unhedged Foreign Currency Exposure.	Regulatory requirement/ Operational Risk/	High
Accounting Implications for the Corporates	Covered options generally do not qualify for hedge accounting under Indian Accounting Standard (Ind AS) 109 for Financial Instruments. Covered options are normally recognised at their fair value with changes in fair value recognised through the statement of profit and loss by the issuing companies, under current accounting principles as well as under Ind AS. Under present accounting principles,	Regulatory requirement/ Operational Risk/	High

	European call or put options are also not generally capable of being treated as hedging instruments. In the backdrop, if a derivative contract does not meet the required criteria and is not classified as a hedging instrument, it will be measured at fair value and changes in fair value will be recognized immediately in the statement of profit and loss.		

3.19 Forwards or Options? – An Analysis

Fluctuations in currency determine the further course of action for an importer/ exporter to hedge their exposure through forwards or options or both. Experts believe that in a trending market, when the currency is either falling or rising, the exporter should hedge through forward contract. For instance, if rising trend in rupee is observed, an exporter can book a forward contract and lock the prices. At the same time, the importer can keep the exposure open and cover at market rate, whenever required. Contrary to it, if the rupee is depreciating, the importer should take a forward contract and the exporter can keep his exposure open and cover at market rate.

Whereas, Options can be used when the market is trading sideways, trend is not clear, experts advise. When the market is range-bound, volatility will be low. At that time, hedging through options can be done because option premium will be low at that time. Vikram Murarka, Chief Currency Strategist, Kshitij Consultancy Services, adds

"……. when the market is trending, volatility tends to be high and so does the option premium. This will be the time when one should sell an option instead of buying an option".

Suppose an exporter is concerned that the dollar may decline so he short forward. However, his objective would have met if he had bought a put option on currency. Put

option is option to sell currency. Since the contract is merely an option, there would be one-sided gains. If USD appreciates, the option does not lead to any loss, as the option need not be exercised. On the other side, If USD depreciates, the option leads to a profit. So, the exporter has protected his losses, but at the same time, may enjoy his profits if the price of USD goes up.

Let us reflect on the position of the person who sold the option contract. The writer or seller of the option would have no gain if the price of USD goes down (unlike the person who longed the forward contract – he would have gains or losses depending on whether the price went up or came down). He would, however, have losses if the price of USD goes down. Therefore, the writer of the option typically expects an upfront premium to write an option contract.

3.20 Futures contracts

In financial terms, Futures contracts or simply Futures, is a standardized forward contract, where there is an agreement to buy or sell a specified quantity of financial instrument, commodity in a designated future month at a price agreed upon by the buyer and seller. Contracts are negotiated at futures exchanges, which act as a marketplace between buyers and sellers. The buyer of a contract is said to be long position holder, and the selling party is said to be short position holder.

The first futures contracts were negotiated for agricultural commodities and later futures contracts were negotiated for natural resources such as oil. Financial futures were introduced in 1972, and in recent decades, currency futures, interest rate futures and stock

market index futures have played an increasingly large role in the overall futures markets.2

3.20.1 Currency Futures Contracts

Currency futures are exchange-traded products, and provide more transparency and flexibility, but no customization to hedge foreign currency exposure. Four currency pairs (USD-INR, EUR-INR, JPY-INR, GBP-INR) are available as futures contract on the exchanges. There is a margin amount, that is, a certain per cent of the total contract value (generally between 3 and 6 per cent) that has to be deposited with the broker. Other charges like the brokerage, exchange charges, etc, add to the overall cost.

3.20.2 Advantages of Futures Contracts

Low Execution Cost - To own a futures contract, an investor needs to put a small fraction of the value of the contract (usually around 10%) as margin. While the margin for a futures contract is small, if the prediction of the investor on movement of market goes correctly he may receive huge profits.

Liquidity- Because there are huge amounts of contracts traded every single day, there is a great chance for the market orders being placed very quickly. For this reason, it is uncommon for the prices to leap a jump onto a completely new level hence the trading in futures contracts are very liquid.

[2] What are Futures contracts?, The Times of India ,Published on September 12, 2017

3.20.3 Disadvantages of Futures Contracts

The major disadvantage in undertaking futures contract is meeting "margin calls" from time to time. When the derivative position exceeds a certain loss limit (mark to market), the margin amount is required to be paid as per exchange trading platform norms. Mark-to-Market (MTM) is calculated on a daily basis, as such the investor is required to pay additional sums almost daily if the position moves into a loss.

3.20.4 Futures Contracts -Risks from Banks' Point of View

Futures trading is inherently risky and requires that participants are not only familiar with all the risks but also possess skills to manage those risks. Following are the major risks associated with trading futures contracts (Table- 3-19):

Table 3-19 Futures Contracts -Risks from Banks' Point of View

Constructs	**Concerns/ Risks**	**Requirements/ Risks**	**Risk Severity**
Cash Flow Risk	Hedging has an opportunity cost. For example, using futures, markets replaces foreign exchange risk by cash-flow risk as margin money varies.	Regulatory requirement/ Operational Risk/	High
Leverage	One of the chief risks associated with futures trading comes from the inherent feature of leverage. Lack of respect for leverage and the risks associated with it is often the most common cause for losses in futures trading. Exchange sets margins at levels which are	Regulatory requirement/ Operational Risk/ Credit Risk	High

	deemed appropriate for managing risks at clearinghouse level. This is the minimum level of margins required by the exchange and provides maximum leverage. For example, if the initial margin for currency futures is 2.5%, it implied 40 times leverage. In other words, an investor/ trader can take a position equivalent to INR 1 lac by only depositing Rs. 2,500 in his or her account. Clearly, this represents great amount of leverage which is defined as the ability to take large exposures with little upfront cost.		
Interest Rate Risk	The risk that an investment's value will change due to a change in the absolute level of interest rates. Normally, rise in interest rates during the investment period may result in reduced prices of the held securities.	Regulatory requirement/ Operational Risk/	High
Liquidity Risk	Liquidity risk is an important factor in trading. Level of liquidity in a contract can impact the decision to trade or not. Even if an investor/ trader arrives at a strong trading view, he may not be able to execute the strategy due to lack of liquidity. There may not be enough opposite interest in the market at the right price to initiate a trade. Even if a trade is executed, there is always a risk that it can become difficult or costly to exit from positions in illiquid contracts.	Operational Risk/ Credit Risk	High
Settlement and Delivery Risk	All executed trades need to be settled and closed at some point. Daily settlement takes the form of automatic debits and credits between accounts with any shortfalls being recovered through margin calls. In cases where an investor fails to pay margin calls, exchange/ brokers take preventive steps to close their positions. Similarly, the risk of non-delivery is	Operational Risk/ Credit Risk	Medium

	substantial for physically delivered contracts. Brokers need to ensure that they allow only those clients access to trade deliverable contracts till maturity who have the capacity and ability to make good on delivery obligations.		

3.21 Futures vs. Forwards

Futures contracts and forward contracts are agreements to buy or sell an asset at a specific price at a specified date in the future. These agreements allow buyers and sellers to lock in prices for physical transactions occurring at a specific future date to mitigate the risk of price movement for the given asset through the date of delivery.

Historically, a forward contract set the terms of delivery and payment for seasonal agricultural commodities, such as wheat and corn, between a single buyer and seller. Today, forward contracts can be for any commodity, in any amount, and delivered at any time. Due to the customization of these products they are traded over-the-counter (OTC) or off-exchange. These types of contracts are not centrally cleared and therefore have a higher rate of default risk.

The futures market emerged in the mid-19th century as increasingly sophisticated agricultural production, business practices, technology, and market participants necessitated a reliable and efficient risk management mechanism. Eventually, the exchange model established for agricultural commodities expanded to other asset classes such as equities, foreign exchange, energy, interest rates, and precious metals.

The modern futures exchange has evolved over time and continues to serve the needs of traders and other users. Futures contracts are used by traders today in many ways. Traders will often use futures contracts to directly participate in a move up or down in a particular market, without having any need for the physical commodity. Traders will hold their

positions for various lengths of time, ranging from day trading to longer term holdings of weeks to months or longer.

3.21.1 Difference between Forward contracts and Futures contracts

Both Forward and Futures are financial contracts which are very similar in nature but there exist a few important differences (Table- 3-20):

Table 3-20 Difference between Forward contracts and Futures contracts

Features	**Forwards**	**Futures**
Traded on exchange	Forward contract is negotiated privately between buyer and seller.	Futures contracts are exchange traded and are therefore very liquid and transparent.
Regulated	Forward contracts are traded over-the-counter, meaning that they are not regulated.	Futures contracts trading is regulated by SEBI.
Standardized, having an exchange-specified contract unit, expiration, tick size, and notional value	Customized. There is essentially no secondary market for forward contracts.	The highly standardized nature of futures contracts makes it possible for them to be traded in a secondary market.
Counterparty risk	In Forward contracts, there is a high level of counter-party risk. As the profit or loss on a forward contract is only realized at the time of settlement, there is a greater risk of credit default risk, since it is privately negotiated, and	In a futures contract, the exchange takes on the counter-party risk. An initial margin is required to be put up by both the buyer and seller. Futures contracts are marked-to-market on a daily basis and

	fully dependent on the counterparty for payment.	depending on the price, both the buyer and the seller's margin account is credited or debited.

3.22 Swaps

Ehrlich et al. (2008) define that foreign exchange swaps contracts assist when a firm has long-term debt in a foreign currency and likes to swap its debt with a counterpart in the country where the currency is based. Swaps are useful when the foreign exchange risk is known. They are flexible, issued by banks and useful for long-term hedging. However, they are not obtainable without a good credit record and they have long term transaction periods (Ehrlich & Anandarajan, 2008).

Like most financial hedges, swaps need a financial intermediary to execute them and are mostly used by large firms that have international subsidiaries and transactions (McCarthy, 1999).

Swaps are generally used for hedging either currency risk or interest rate risk or both. Interest and currency risks on loan exposures (ECB, FCNR loans) can be hedged through Cross- currency Interest Rate Swap (CIRS), Interest Rate Swap (IRS), Principal only Swap (POS) and Coupon Only Swap (COS). In India, presently swap arrangements may be difficult to set up because there is no active market for swaps in currencies like INR.

Success of swap transactions depends on the rate of interest of loans availed in local currencies. Owing to higher rate of interest on loans being availed by SMEs in INR and undertaking swaps transactions against these with any hard currency may affect their performance and profitability due to higher rates of interest on loans in INR vis-à-vis those in developed countries.

3.23 Interest Rate Options

Reserve Bank of India has introduced Interest Rate Options (IRO) effective from 31st January 2017. Through IROs, SMEs/ corporates are able to manage their interest rate risk better than earlier. They can also gain from it by speculating on interest rates. An option is a contract betting on future rate movement Under IRO, an option buyer's losses are limited to the extent of premium paid while an option seller's profits too are capped to the extent of premium. IROs are permitted both on exchanges authorized by SEBI and OTC.

3.24 Exchange Traded Instruments (ETIs)

Experts suggest that for small business entities with less forex exposure, the exchange traded derivatives contract can be used for hedging the short-term forex exposure as the pricing is transparent on the exchanges. They also insist that instruments like swaps, principal only swap and interest rate swaps can be used for covering long-term liabilities, like loans.

3.25 Exchange Traded Instruments (ETIs) Vs Over The Counter (OTC) Products

SMEs/ Corporates select hedging through a derivative product keeping in view the value of the derivative component, imputed cost of the component, all transaction cost etc. Derivative products available for hedging in OTC or exchange have their own pros and cons (Table- 3-21):

Table 3-21 Exchange Traded Instruments(ETI) and OTC Instruments- Pros and Cons

Factor	**Exchange Traded Instruments (ETIs)**	**OTC Instruments**
Transparency in Pricing and Transaction	The biggest advantage for hedging exchange traded instruments is transparency in prices. For ETIs,	For hedging through OTC instruments, the prices are opaque. The premium charged

Cost	prices are available at exchange platform which are non-negotiable. Transaction costs are lower because the exchange platform makes it easy to find a reliable buyer/seller, negotiate contract terms, secure finance to fund the transaction, manage credit, ensure timely cash and product transfers, and resolve any dispute.	can vary from bank to bank, case to case, depending on the relationship of the buying entity with its bank. Big players and a large hedge amount could fetch better rates, whereas SMEs/ small corporates with less hedge amount would have to satisfy themselves with the normal price charging.
Maturity Period	Exchange traded instruments are available for a fixed maturity period, normally expiring on month end. Hence for a borrower searching for a perfect hedge i.e. the actual time of hedge requirement and the contract expiry, may not match.	Instruments available at OTC scores better with respect to maturity period, in comparison to the ETIs. Trading at OTC offers flexibility to perfect hedge for any period, for any specific date on which the transaction is to take place.
Contract Limit	ETIs are available as per contract limits size. For the USD-INR contract, it is $15 million and for other contracts together (EUR-INR, GBP-INR and JPY-INR) it is $5 million.	In OTC, there is no such limitations and any quantum of amount can be hedged.

Hedging Cost	For undertaking ETI, hedging cost, that is, the premium, and other charges are payable upfront. Hedging cost also increases, if the position held in futures goes against expectations. Then buyers have to pay mark-to-market (MTM) margin on a daily basis.	On OTC derivatives transactions are undertaken by the banks on behalf of their borrowal entities/ corporates/ SMEs against a sanctioned credit facility, as per RBI norms. When any margin money against the loss in the hedge position is required, it is recovered from the buyers as per terms of sanction of credit limit.
Liquidity Requirements	On the exchanges, the liquidity is required/ available at month end when contracts expire.	OTC instruments offer customization to a borrower for meeting his hedging requirements which is not available in ETIs. However, customization imbibe liquidity and other similar risks. Customised contracts/ transactions usually are not cancelled in between and before expiry. If allowed then there is a cost.
Cancellation of contract	Cancellation of the contract is not possible with ETI.	Cancellation of the contract is possible in OTC trading.

Broadly speaking, trading at OTC is flexible and ETIs have limitations. Hence, keeping in view the inter- related factors like interest rates, expiry (or maturity) of the instrument,

price or level of underlying of derivative component, volatility of the underlying asset etc. trading at OTC is better suited to SMEs/ small corporates etc. However, one respondent observes:

" …While in general credit risk may be less extensive in the OTC foreign exchange market than in other markets, particularly given the relatively short-term nature of the majority of transactions, it is by no means negligible. Each foreign exchange market participant should manage counterparty credit risk by analysing the credit of its trading counterparties, defining acceptable levels of counterparty credit risk, and mitigating such risk where possible."

3.26 Why Corporates Should Hedge ?

Brookes et al. (2000) suggests that while short-term fluctuations in the exchange rate can be hedged with little difficulty and at little cost, long- term movements are likely to be more serious. Moosa (2004) adds that it is thought to be imperative to hedge against adverse movements in exchange rates that may cause infrequent but large exposures. Dufey & Srinivasulu (1983) point out that various concepts and theories viz. Purchasing Power Parity (PPP) theorem, Capital Asset Pricing Model (CAPM), Modigliani-Miller (MM) theorem, Concept of Self-insurance, Efficient Market Hypotheses, Hedging of Consumption Bundle and Uncertainty of Forward Rates & Spot Rates etc. are valid in an ideal world where hedging etc. may not be required. Dufey & Srinivasulu (1983) suggest that we are not in an ideal world and firms do need to hedge.

3.27 Why Corporates avoid Hedging?

Experts opine that many SMEs/ corporates take their hedges as their "market position". They think that taking a hedge, such as a forward contract, is the same as taking a trading position in the market which can be kept on changing as and when required. This is also supplemented by their tendency to cancel and rebook forward contracts, albeit subject to compliance of RBI guidelines. This practice tends to give their hedging flavour as of a

trading position. However, this is incorrect., comments Vikram Murarka, Chief Currency Strategist, Kshitij Consultancy Services,

"……The hedge is not the company's actual market position. It is a transaction undertaken to offset, or square off, or negate, the actual underlying position that the company has in the market, because of its fundamental business transactions."

He put forth in his support with an example. He adds, suppose an exporter who is to receive dollars after 3 months, has an intrinsic Long position in the market. The value of his receivable Long position increases if the Dollar rises against the Rupee, it decreases if the Dollar falls against the Rupee. In other words, the export receivable is exposed to market fluctuations and accordingly his position in the market.

If the Exporter now sells Dollars Forward for 3 months against this export receivable, he is hedging or closing out or squaring off his export receivable position. If the Dollar moves up against the Rupee, the gain on the exports is offset by the loss on the forward contract. On a net basis, therefore, the value of the Export Receivable is no longer exposed to market fluctuations. The position has been closed through the hedge, through the Forward Sale Contract.

Similar, but contrary to the above, is the position of the importer, who is Short Dollars in the market by his imports. He must buy Dollars in the market to make good his payment obligation on due date. When he buys Forward Dollars, he is not taking a fresh position in the market. He is simply covering his exposure, providing for his payment obligation, squaring off the risk of Rupee depreciation.

Since SMEs/ corporates do not undertake themselves the export or import transactions or because their underlying position is created by default, there is a tendency for not recognising the actual position of their company in the currency market. Resultantly, they ignore and overlook the profit or loss on their actual position and rather focus on the profit

or loss of their hedge. This is akin to losing sight of the woods for the trees, because, usually, the quantum of the actual underlying exposure is greater than the quantum of the hedge.3

In addition, due to lack of visibility and poor or no risk culture, many SMEs think that implementing a hedging strategy may have counter-effective results and prefer to maintain a status quo. All such factors prevent Indian corporates from hedging. In the following paras we delineate hereunder a few more of them:

3.27.1 Determining Cost of Hedging

To understand pre and post hedging implications and its impact of periodic profitability, cost of hedging should be determinable. While computing the overall settlement rate or Internal Rate of Return (IRR) or cost of funds, cost of hedging such as risk premium, bank charges etc., should be factored separately.

The high cost of hedging tempts companies to leave their foreign currency exposure open. Corporates seem to think that the cost incurred for paying the premium4 while buying a hedge is unnecessary, and an avoidable expense.

3.27.2 Need for Hedging Cost Budget

The foremost reason of corporates avoiding hedging is cost element attached to it Hedging is a business activity in its own right and every business activity needs to be

[3] Vikram Murarka, Chief Currency Strategist, Kshitij Consultancy Services
[4] Premium is a function of the interest rate differential between the two currencies e.g. INR and USD, which is 4.75% for 3 months' period at the moment.

backed up separately. For backing up the hedging activity, the cost attached to it, in terms of should not be clubbed with any other business activity like production or sales. It should be managed separately, methodically and regularly. Vikram Murarka, Chief Currency Strategist, Kshitij Consultancy Services, says that

"…..just as a business allocates a certain sum in its budget for small elements such as stationery, etc., it is necessary to allocate a certain sum for hedging expenses as well."

3.27.3 High Cost of Hedging

In absence of hedging cost budget for paying, inter-alia, upfront option premium etc., most companies find themselves unable or do not like to use options as a hedging tool, even though the put options are sometimes more effective than Forwards. Not having a hedging cost budget also acts as a disincentive for companies to exit unprofitable hedges.

3.27.4 Zero Cost Structures

There is also the reason that many get attracted towards "zero cost options" and end up losing money in times of excessive volatility. Zero Cost Structures refer simultaneously buying and selling of derivatives/ options.

A forward is the simplest example of a derivative, so most of the players prefer it. Hence, for example in the scenario of weakening dollar, the user who has shorted the forward would incur loss. However, if the derivative is a put option, there would be no loss. How it happens, let us have an example.

Suppose an exporter is concerned that the dollar may decline so he short forward. However, had he bought a put option on currency, his objective would have been met. Put option is the option to sell (short) currency. In option contract there are one-sided gains. Under the circumstances, if USD appreciates, the put option contract does not lead to any loss, as the option need not be exercised. On the other hand, if USD depreciates, the put

option leads to a profit. Thus, by buying put option, the exporter would have protected his losses and if the price of USD had gone up, he might have enjoyed his profits also.

Let us reflect on the position of the person who sold the option contract. The writer or seller of the option would have no gain if the price of USD goes down (unlike the person who longed the forward contract – he would have gains or losses depending on whether the price went up or came down). He would, however, have losses if the price of USD goes down. Therefore, the writer of the option typically expects an upfront premium to write an option contract.

Buying of an option – whether put or call – involves an upfront premium. More the volatility of the underlying, more will be such premium. Zero Cost Structure or a cost reduction structure limits the losses of the option writer, so that the cost of selling the option comes down. For example, if the protection sold by the option writer is range bound, or has knock out features, the cost of the option comes down. This may be called a cost reduction structure. Prima facie, there is nothing wrong in cost reduction structures – the option buyer gets limited protection, and therefore, there is a limited hedge, but it is a hedge nevertheless if the end-user ends up paying no premium, the only way it is possible is because he sold more risk than the risk protection that he bought. It surely cannot be the case that he was a net buyer of protection, and still did not pay any price for the protection he bought. Even if the cost of defaulters.

RBI specifies that the transaction must be a hedge. That is to say, the expected cash flows from the derivative must be approximately the mirror image of cash flows from the underlying exposure, such that the gains/losses from the latter are offset by the losses/gains from the former. A written option creates a risk – it cannot hedge any risk. So as per globally prevalent accounting standards writing options do not qualify as hedges.

Still people like to write options. Because an option writer makes a spread in the process

by writing (selling) an option and buying an option. But written options are not viewed as hedges.

Experts suggest that systematic hedging may entail gross benefit of about 4-5% and net benefit of about 1% excluding hedging cost. However, the understanding and belief that hedging forex risk is a necessary business activity is not fully entrenched yet. There are a few main reasons:

First - Most of the hedging is done using Forward Contracts, wherein the hedging cost or forward premium is built into the price. Since it is not paid separately upfront, it does not get recognized as an explicit cost.

Second- Most companies use the Forward Rate for budgeting their imports/ exports where the hedging cost is implicitly added to the raw material cost or product cost. As such the cost of hedging activity is shifted to the activity of procurement or manufacturing or sales.

Third- Lack of transparency in terms of cost attached with hedging. While taking a forward contract with a bank, many corporates keeps away from hedging because of there remains most of the time lack of transparency in the cost recovered by them. Unless the business entity has a good relationship with the bank, it is unlikely to get good rates.

Fourth- one of the reasons why importer do not hedge is as they perceive the forward premier to be on the higher side compared to what they expect the depreciation to be. But the RBI data in the following Table-3.22 shows that the forward premium (major hedging cost component) has come down in the last few years:

Table 3-22 Forward Premia (Inter-bank)

Table 3—22 Forward Premia (Inter-bank)							
Forward Premia (Inter-bank) (Monthly average)				Forward Premia (Inter-bank) (Monthly average)			
(Per cent per annum)				(Per cent per annum)			
Year / Month	1-month	3-month	6-month	Year / Month	1-month	3-month	6-month

2012				**2015**			
Jan	8.89	7.81	6.8	Jan	7.98	7.7	7.36
Feb	8.94	8.31	7.18	Feb	7.54	7.85	7.59
Mar	10.09	8.55	7.4	Mar	9.05	8.26	7.98
Apr	8.58	7.73	7.05	Apr	8.04	7.74	7.71
May	7.93	7.22	6.35	May	7.91	7.56	7.39
Jun	7.48	6.87	5.9	Jun	7.43	7.35	7.22
Jul	7.93	7.21	6.52	Jul	7.44	7.29	7.21
Aug	7.84	7.37	6.86	Aug	7.29	6.99	6.92
Sep	7.41	6.9	6.51	Sep	6.85	6.65	6.52
Oct	7.54	6.78	6.33	Oct	6.9	6.68	6.69
Nov	7.04	6.42	6.06	Nov	6.69	6.56	6.52
Dec	7.53	6.74	6.57	Dec	6.44	6.21	6.39
2013				**2016**			
Jan	7.43	7.17	6.71	Jan	6.51	6.41	6.32
Feb	7.01	7.76	7.24	Feb	6.67	6.78	6.53
Mar	8.79	7.87	7.27	Mar	8.71	7.56	7.11
Apr	7.74	7.5	7.18	Apr	7.15	6.75	6.6
May	7.21	6.85	6.46	May	6.84	6.63	6.53
Jun	6.86	6.35	5.9	Jun	6.45	6.46	6.26
Jul	8.36	7.83	7.47	Jul	6.52	6.32	6.12
Aug	10.35	9.52	8.71	Aug	6.56	6.32	6.03
Sep	10.65	9.56	8.55	Sep	6.53	6.17	5.78
Oct	9.24	9.12	8.46	Oct	6.32	5.78	5.57
Nov	9.08	8.93	8.55	Nov	4.5	4.58	4.65
Dec	9.28	8.78	8.58	Dec	4.2	4.1	4.32
2014				**2017**			
Jan	8.6	8.52	8.17	Jan	4.83	4.77	4.63
Feb	8.31	8.79	8.44	Feb	4.67	5.12	4.86
Mar	10.54	9.26	8.74	Mar	5.4	5.08	4.94
Apr	8.64	8.46	8.41	Apr	5.41	5.25	5.19
May	8.43	8.28	8.11	May	5.18	5.04	4.93
Jun	8.74	8.75	8.71	Jun	4.81	4.81	4.67
Jul	8.92	8.73	8.7	Jul	4.92	4.75	4.7
Aug	9.03	8.56	8.52	Note: RBI reference rate is used for calculating inter-bank forward premia of US dollar in percent.			
Sep	8.77	8.43	8.4				
Oct	8.17	8.06	7.91				
Nov	7.96	7.84	7.63				
Dec	8.24	7.46	7.29				

As may be observed from the above table the forward premium on USD-INR has come down for all the three specific periods, one month, three months and six months, from around 9 per cent in 2012 to about 4.09 per cent at the moment.

3.27.5 Stable rupee

A stable currency reduces the risk of unforeseen losses. Indian corporates largely believe that the Indian rupee is more stable and less volatile compared to other currencies. However, this is far from the facts. Though the average monthly amplitude (difference between the monthly high and low) for the period between year 2013 to 2017 for rupee is ₹1.3 against the USD, ₹1.48 against the Pound Sterling, ₹3.62 against the Euro, ₹2.80 against the Japanese Yen ₹2.62, from a long-term perspective, the domestic currency has been weakening consistently year after year since 2013, barring the current year 2017, as may be observed from the following Table 3.23:

Table 3-23 Exchange Rate of the Indian Rupee vis-a-vis US Dollar, Pound Sterling, Euro and Japanese Yen

Exchange Rate of the Indian Rupee vis-a-vis US Dollar, Pound Sterling, Euro and Japanese Yen (High and low during the month)												
(₹ per unit of foreign currency)												
Year/ Month	US Dollar			Pound Sterling			Euro			Japanese Yen		
	High	Low	Amp	High	Low	Amp	High	Low	Amp	High	Low	Amp
1	2	3	4	5	6	7	8	9	10	11	12	13
2013												
Jan	53.29	55.33	-2.04	84.22	89.23	-5.00	71.32	73.13	-1.80	58.66	63.33	-4.67
Feb	52.97	54.48	-1.51	81.24	84.85	-3.60	70.39	72.63	-2.24	56.59	58.81	-2.22
Mar	54.10	55.05	-0.95	80.84	82.79	-1.95	69.54	71.61	-2.07	56.36	58.97	-2.61
Apr	53.94	54.88	-0.94	82.05	84.23	-2.18	69.59	71.42	-1.83	54.31	58.56	-4.25
May	53.74	56.50	-2.76	83.31	86.01	-2.70	70.46	73.68	-3.22	53.50	56.03	-2.53
Jun	56.42	60.59	-4.16	86.15	92.92	-6.77	73.64	79.19	-5.55	56.35	62.08	-5.73
Jul	58.91	61.12	-2.20	89.52	92.97	-3.45	76.89	80.95	-4.06	59.01	62.44	-3.43
Aug	60.74	68.36	-7.62	91.95	106.03	-14.08	80.37	91.47	-11.10	61.04	70.25	-9.21
Sep	61.75	67.03	-5.28	99.50	104.32	-4.82	83.42	88.24	-4.82	62.66	67.18	-4.52
Oct	61.16	62.36	-1.20	97.77	101.20	-3.44	82.78	85.14	-2.36	62.15	63.62	-1.47
Nov	61.79	63.65	-1.87	98.66	102.06	-3.40	83.42	85.55	-2.13	60.97	63.97	-3.00
Dec	61.18	62.38	-1.20	100.0	102.18	-2.17	83.82	85.43	-1.61	58.86	60.77	-1.91
2014												
Jan	61.35	62.99	-1.64	100.21	104.61	-4.40	83.38	86.17	-2.80	58.77	61.36	-2.59

Feb	61.94	62.69	-0.75	101.78	104.02	-2.24	84.35	85.70	-1.34	60.51	62.12	-1.61
Mar	60.10	61.90	-1.80	99.39	103.52	-4.13	82.58	85.31	-2.73	58.78	61.01	-2.23
Apr	59.65	61.12	-1.47	99.21	102.77	-3.56	82.15	84.52	-2.37	57.48	59.73	-2.25
May	58.43	60.23	-1.80	98.28	101.97	-3.68	79.81	83.58	-3.78	57.48	59.17	-1.69
Jun	59.06	60.37	-1.31	99.02	102.77	-3.75	80.30	82.12	-1.82	57.65	59.28	-1.63
Jul	59.72	60.33	-0.61	101.92	103.18	-1.26	80.64	82.28	-1.65	58.60	59.54	-0.94
Aug	60.43	61.56	-1.13	100.12	103.50	-3.39	79.65	82.41	-2.76	58.01	60.64	-2.63
Sep	60.26	61.61	-1.35	97.25	100.49	-3.24	77.84	79.56	-1.72	55.73	58.06	-2.33
Oct	61.04	61.75	-0.71	98.06	100.07	-2.01	77.19	78.89	-1.70	55.28	58.02	-2.74
Nov	61.39	62.10	-0.72	96.54	98.06	-1.52	76.16	77.91	-1.75	52.34	54.48	-2.14
Dec	61.85	63.75	-1.90	96.37	99.98	-3.61	76.10	79.39	-3.29	50.98	54.34	-3.36
2015												
Jan	61.41	63.45	-2.04	92.16	98.64	-6.47	69.03	76.60	-7.57	51.95	53.30	-1.35
Feb	61.68	62.43	-0.75	92.71	96.24	-3.53	69.29	71.05	-1.77	51.85	52.80	-0.95
Mar	61.82	62.82	-1.00	92.26	95.27	-3.00	65.95	69.25	-3.30	51.47	52.75	-1.28
Apr	62.16	63.61	-1.45	91.06	97.99	-6.93	66.16	70.53	-4.37	51.74	53.53	-1.79
May	63.52	64.20	-0.68	95.96	100.65	-4.69	69.64	72.88	-3.24	51.48	53.68	-2.20
Jun	63.51	64.18	-0.67	97.10	101.26	-4.15	69.63	72.46	-2.83	51.06	52.17	-1.11
Jul	63.37	64.03	-0.65	97.65	99.89	-2.24	68.83	70.88	-2.05	51.17	52.30	-1.13
Aug	63.76	66.71	-2.95	98.76	105.10	-6.34	69.31	77.11	-7.80	51.11	56.01	-4.90
Sep	65.63	66.74	-1.12	99.53	102.75	-3.22	73.26	75.32	-2.06	54.50	55.93	-1.43
Oct	64.73	65.55	-0.83	99.05	100.55	-1.50	71.25	74.50	-3.25	53.63	54.61	-0.98
Nov	65.45	66.81	-1.36	99.95	101.13	-1.18	70.35	72.22	-1.87	53.48	54.53	-1.05
Dec	66.14	67.04	-0.91	98.30	101.78	-3.49	70.44	73.93	-3.49	54.05	55.49	-1.44
2016												
Jan	66.18	68.09	-1.91	96.20	97.96	-1.75	71.70	74.48	-2.78	55.01	58.30	-3.29
Feb	67.64	68.78	-1.14	95.20	99.01	-3.81	73.41	77.36	-3.95	55.78	61.27	-5.49
Mar	66.33	68.16	-1.83	94.30	96.34	-2.04	73.17	75.30	-2.13	58.58	60.50	-1.92
Apr	66.24	66.73	-0.49	93.79	97.40	-3.62	74.90	75.91	-1.01	59.44	61.96	-2.52
May	66.27	67.71	-1.44	95.77	98.95	-3.18	74.79	76.61	-1.82	60.40	62.65	-2.25
Jun	66.63	68.01	-1.39	90.17	99.47	-9.30	74.88	76.54	-1.66	61.31	66.69	-5.38
Jul	66.91	67.50	-0.58	86.92	89.93	-3.01	73.80	75.03	-1.23	62.73	67.15	-4.42
Aug	66.74	67.19	-0.45	86.34	89.07	-2.73	74.06	76.04	-1.98	64.89	67.03	-2.14
Sep	66.36	67.06	-0.70	86.34	89.04	-2.70	74.17	75.36	-1.20	64.20	66.65	-2.45
Oct	66.53	66.8	-0.36	81.30	85.87	-4.57	72.79	74.72	-1.93	63.44	65.70	-2.26
Nov	66.43	68.72	-2.30	81.56	85.85	-4.29	72.21	74.97	-2.76	60.32	65.05	-4.73
Dec	67.43	68.37	-0.94	83.31	86.73	-3.41	70.47	73.11	-2.64	57.38	60.11	-2.73
2017												
Jan	67.79	68.23	-0.44	82.00	85.52	-3.52	70.99	73.23	-2.24	57.81	60.27	-2.46
Feb	66.72	67.65	-0.92	82.89	85.49	-2.60	70.51	72.92	-2.40	58.56	60.26	-1.70
Mar	64.84	66.85	-2.01	80.07	82.72	-2.65	69.25	70.73	-1.49	57.08	59.08	-2.00
Apr	64.00	65.04	-1.04	79.86	82.83	-2.97	68.25	70.04	-1.79	57.47	59.39	-1.92
May	64.02	64.99	-0.97	82.56	84.18	-1.62	69.89	72.75	-2.86	56.48	58.44	-1.96
Jun	64.26	64.74	-0.48	81.53	84.26	-2.72	71.94	74.00	-2.06	57.40	58.93	-1.53
Jul	64.08	64.82	-0.74	82.69	84.29	-1.60	73.43	75.22	-1.79	56.38	58.05	-1.67
Average	US Dollar		-1.48	Pound Sterling		-3.62	Euro		-2.80	Japanese Yen		-2.62
Notes : amplitude (difference between the monthly high and low)												

As may be observed from the above Table 3.23 that in the year 2017 rupee has strengthened 6 percent against the USD. In fact, it has appreciated against most

currencies. But it not a console with respect to unhedged currency exposures of corporates. A banking expert warns:

"……..These rupee gains could trigger expectations of further appreciation, lulling importers into leaving their currency exposures unhedged. At least 40 percent of current portfolios aren't protected against exchange-rate swings.[5]*"*

For the most part importers believe that if position reverses, the RBI would intervene in the market and arrest depreciation in the rupee, if extended continuously. Empirical evidence over almost two-and-a-half decades also uphold that only in very few years has the rupee depreciated against the dollar, by more than the interest differential. In other words, RBI's exchange rate policy has not kept the rupee reasonably stable in purchasing power parity (PPP) terms.

But the RBI has reiterated several times that it will not intervene in the market unless there is excess and abnormal volatility. So one of the participants suggest that both exporters and importers should watch the currency move diligently and hedge accordingly.

Experts advise that while extended periods of low volatility may make life easier for investors, it creates an unstable situation for the corporates who have short dollar exposures where they find it difficult to pay a hedging cost of 6% if the rupee has barely moved by 2% over the previous 12 months.[6].

[5] Soumya Kanti Ghosh, Chief Economic Adviser at State Bank of India, Flood of Cheap Chinese Imports May Hurt India's Factories, The Bloomberg News, Published on August 16, 2017
[6] Will policy of keeping rupee volatility low persist? ,Jamal Mecklai, The Financial Express, Published on September 14, 2016

3.27.6 Natural hedge

Experts opine that many corporates/ SMEs, especially in the manufacturing sector, believe that when natural hedge is available there is no need to hedge. Their belief is based on the instinct that the opportunity of natural hedge arises in the normal course of business operations. For instance, if a company exports to a country and also imports raw materials from the same country or has taken an overseas loan in the other currency, then the forex exposure of the revenue is partially neutralised.

Technically, everything is un-hedged. A natural hedge is not a hedge. For example, a corporate has exported in dollars, which it will receive after three months. At that time whether it will fetch INR 68 or 61 for the dollar? Nobody knows until one has made a transaction to cover that today. So the concept of natural hedge may work in theory but it may not be practical due to time mismatch. A senior banker participant observes:

"The timing is a problem as the payment may not come exactly at the time of loan repayment period. This mismatch between the export flow and liability repayment becomes a problem."[7]

3.27.7 Products offered by the Banks

Generally, PSU banks suggest their clients only forward contracts, especially to SMEs. They do not encourage other derivative instruments as private banks do. RBI should instruct the PSU banks to popularise other derivative products as well. Some of the private sector banks in the recent past sold exotic derivatives to some of its clients without explaining clearly the pros and cons of the same. This has resulted in considerable foreign exchange

[7] Soumyajit Niyogi, Associate Director, Core Analytical Group, India Ratings & Research

losses to business enterprises in question. Instead of allowing the violating banks to settle the dispute out of court, private banks should be exemplarily punished. The banks should devise hedging products that will enable small businesses to protect themselves from currency exposure as they may not have access to competitive and efficient forex services and moreover as they cannot park their fund in EEFC account. Banks should devise hedging products that will enable small businesses to protect themselves from currency exposure as they may not have access to competitive and efficient forex services and moreover as they cannot park their fund in EEFC account

3.28 Risks from Non-Disclosure on Foreign Currency Induced Risks

Following guidelines on quantification of currency induced credit risk under 'Internal Capital Adequacy Assessment Programme' (ICCAP) banks are required to disclose details on incremental provisioning, capital and polices for, inter-alia, managing currency induced credit risk of their borrowers.

Banks need to ensure this disclosure strictly while considering overall risk appetite for the borrowers. They are required to fix suitable internal limits and prescribe ratings for such borrowers whose capacity to repay is sensitive to changes in the exchange rate. Whenever such incidents occur, the borrowers are required to adhere to risk mitigating factors and reduce their unhedged exposure/ currency mismatches.

In the backdrop, most of the corporates/ SMEs report limited information on their hedged and unhedged exposure. In absence of transparency, banks also find it difficult to read and interpret hedging strategies of the corporates and use this information during assessment and appraisal of credit proposal while making credit decision process.

A finance expert participant observes

"*…Hedging through derivatives may only be considered where the entity at inception of the*

derivative contract has documented the purpose and the strategy for hedging and assess its effectiveness at periodic intervals. As such banks may consider financial hedges only for entities which have applied the hedging provisions of AS 30, Financial Instruments: Recognition and Measurement. AS 30 is currently neither recommendatory nor mandatory standard and a large number of entities do not apply hedge accounting as envisaged in AS 30.

Besides, in terms of BASEL-III capital regulation guidelines, interbank deals under forex forward segment are subject to additional capital charge for exposure to Qualified Central Counter Party (QCCP) i.e. Clearing Corporation of India Limited (CCIL). [8] The other thing is that the additional provision is made on the entire banking exposure of the borrower, not just on its forex exposure.

All these stipulations/ directives lead, inter-alia, to higher pricing of the loans/ credit extended to the borrowers and push up their cost of borrowings. Thus, the banks face fear of losing business.

One banking expert share that UFCE of borrowers is a punishment for banks in terms of higher provisioning. If the likely loss percentage over EBID is 75 percent or more then to that extant banks are required to allocate more capital.

A few market participants observe that under the circumstances, it is very much possible that a few banks may not like to quantify the possible increase in provisions and prefer to accept the data given by their customers.

3.29 Unhedging by Corporates- Impact on Banks

[8] RBI Master Circular No. 103/2014-15/103 dated 01.07.2014

Banks face, on account of their exposure with their borrowal clients, both counterparty credit risk and market risk. They are required to manage both market risks and credit risks arising from their exposure to clients. Though usually banks cover their clients' trades by hedging on a back-to-back basis in inter-bank market, they however suffer from the perils of credit risks. FCE losses affect repaying capacity of the borrowers, which in turn impact quality of assets of their lending banks.

At times, SMEs/ Corporates do not hedge their foreign currency exposures strategically and choose to bear the risk of losses in case of negative exchange rate movements. But their Unhedged Foreign Currency Exposures (UFCEs) entail risk not only to themselves but to their financing banks as well. When they choose to not hedge their foreign currency exposures properly and adequately, they lead themselves to severe distress in the event of sharp adverse movements in currencies and to large potential credit loss to their bankers as well.

There have been instances when large unhedged forex exposures resulted in accounts turning NPAs and borrowers were compelled to default in servicing their debt.

From a regulatory standpoint, GoI, RBI and other similar bodies have expressed concerns time and again over the extent of unhedged exposures of corporate world and also to what extent these could impair the quality of bank credit.

Earlier long back in 2001, RBI had issued guidelines with respect to monitoring and reviewing the unhedged foreign currency exposures of entities financed by banks. However, in 2013 RBI observed that 60% to 65% of forex borrowings of the corporates were un-hedged.

Keeping in view the implications of excessive risks taking by the corporates and impact of consequential risks on their balance sheets, in turn overall financial system, RBI again came out in 2014 with guidelines on the likely loss from currency fluctuations of banks' borrowal

clients and advised to make incremental provisions and capital with respect of their UFCE.

RBI advised banks to evaluate the risks arising out of UFCE of their borrowers and price them in the credit risk premium while extending fund based and non-fund-based credit facilities to them.

3.29.1 RBI Guidelines on Unhedged Foreign Currency Exposure of Corporates [9]

RBI has stipulated banks to adhere following guidelines on UFCE of corporates:

To ensure that each bank has a policy that explicitly recognises and takes account of risks arising out of foreign exchange exposure of their clients, foreign currency loans above US$ 10 million, or such lower limits as may be deemed appropriate vis-à-vis the banks' portfolios of such exposures, should be extended by banks only on the basis of a well laid out policy of their Boards with regard to hedging of such foreign currency loans. Further, the policy for hedging, to be framed by their Boards, may consider, as appropriate for convenience, excluding the following:

- Where forex loans are extended to finance exports, banks may not insist on hedging but assure themselves that such customers have uncovered receivables to cover the loan amount.
- Where the forex loans are extended for meeting forex expenditure.

[9] RBI Circular No. DBOD.No.BP.BC.85/21.06.200/2013-14 on "Capital and Provisioning Requirements for Exposures to entities with Unhedged Foreign Currency Exposure" dated January 15, 2014 and clarification DBOD.No.BP.BC.116/ 21.06.200/2013-14 dated June 3, 2014 providing requirements for exposures to entities with unhedged foreign currency exposure.

RBI has also advised banks to consider stipulating a limit on unhedged position of corporates on the basis of their Board approved policy. As such Banks are required to obtain

- the UFCE information from all its branches (including foreign branches) in respect of large borrowers.
- a certificate in respect of UFCE from entities on a quarterly basis on self-certification basis, and which has preferably been internally audited by the entity concerned. However, at least on an annual basis, UFCE information should be audited and certified by the statutory auditors of the entity for its authenticity.

Banks are required to compute "Capital and Provisioning Requirements for Exposures to entities with UFCE" at least on a quarterly basis, as per the applicable RBI guidelines.

3.29.2 Challenges with assessment of UCFE

Banks are required to make incremental provisioning every quarter and meet specific capital requirements on UFCE of their clients. They have to make additional provisioning for all their lending to corporates whose estimated forex losses exceeds more than 15% of borrowers' annual Earnings Before Interest, Taxes, Depreciation, And Amortisation (EBITDA). RBI guidelines specify that if the likely loss is seen at more than 15% of a company's post-tax profit, the provision will go up by 20 basis points (bps). At a 30-50% loss level, provisions will rise to 40 bps, while at a 50-75% loss level, provisions will increase by 60 bps. If a company's potential loss is seen at more than 75% of its profit, provisions will rise by 80 bps and the loan's risk weight will go up by 25%. The increase in isk weight will require additional capital, along with increased provision, affecting their capital ratios as

well [10]

3.29.3 Calculation of Likely Loss

The likely loss is to be calculated on the basis of currency volatility. Volatility of the rupee over the last 10 years on an annual basis will determine what could be the likely loss and then the likely loss for the corporate on its whole balance sheet has to be compared with the earnings before interest and depreciation (EBID). One of the senior bank official observes:

"*…… It is a very tough calculation to make. In real time, it will be very well near impossible. A simpler calculation would have been much more in order. Let us say: Rs 2 per dollar on the dollar un-hedged position rather than going into this grid of the overall balance sheet exposure, comparison to EBID and then a 15-30-50 or 75 percent. A much simpler dispensation is needed otherwise it is really going to be expensive, inaccurate, tedious and time consuming".*

Secondly, it is difficult to ascertain as to how many clients have unhedged exposure where the loss can be over 75 percent of their EBID.

Experts opine that assessment of UFCE is an uphill task. Most of the Bankers participants share that at times, they don't have a clear idea of unhedged exposures of their corporate borrowers because they do not provide them with adequate information. Bankers point out that eventually it is the client's decision to hedge or not. One of the senior bank official

[10] [10] http://www.nspforex.com/index.php/services/evaluation-of-hedged-and-unhedged-exposures.html

shares:

"... how can we force a borrower to hedge. We can protect ourselves with providing more provision against the clients who have unhedged exposures unhedged. We can also try to mitigate credit risk by obtaining adequate collateral cover, but we can't force them to hedge."[11]

That leaves the banks in a situation where they neither have a clear idea of the magnitude of the problem nor do they seem to have a solution in sight. An expert questions whether it is fair to put the entire onus on the banks for the failure of the corporates to protect their own earnings from the exchange risks inherent in their foreign currency borrowings. No doubt, there is an underlying motivation for the corporates to keep their exposures un-hedged as hedging has a cost. They also cannot arm-twist their clients into hedging beyond a point. A finance expert shares

"..... it is unjust to pass on this entire cost to banks, which in many cases have merely advanced them rupee finance."

Asking banks to increase their provisioning and provide more capital for their exposures to un-hedged forex exposures is certainly not the best solution to the problem of bloating NPAs

3.29.4 Creating awareness about the problems related to currency exposure

The stakeholders of the corporates/ SMEs should suitably be warned timely and

[11] http://www.livemint.com/Money/76txu20LY1h1dLHuxLNRoL/Unhedged-forex-exposures-continue-to-haunt-RBI.html

appropriately, against the risk of unhedged exposures. When forex losses hit an entity, it is eventually the stakeholders who take a hit.

3.29.5 Data collection -Obtaining UFCE data from Corporates/ SMEs

Keeping in view the borrowers' vulnerability to the foreign currency exposure, banks are required to collect data on quarterly basis from the entities having foreign currency exposures and assess their risk appetite. On the basis of this data, banks are required to maintain provisioning and capital.

RBI guidelines also put the onus on banks to closely monitor their clients' unhedged exposures. They need to obtain a certificate on yearly basis, duly signed jointly by the borrowing entity and statutory auditor of the entity. A senior bank official with a PSB worries:

"…..This is going to be tough and we will have to be strict with clients to furnish us certificates of exposures, but ultimately what it will do is to push up the cost for clients with unhedged exposures,"

In terms of RBI guidelines banks are also required to furnish this quarterly data including UFCE of their borrower clients to them on regular basis.

3.29.6 Monitoring of UFCE

Banks are required to monitor UFCE on monthly intervals. One of the significant problems faced by the banks is timely obtention of comprehensive and accurate information/ data from the customers. Another is how to ensure the data submitted cover entire unhedged position of the corporates/ borrowers although the data is certified by statutory auditor of the borrowers.

Banks are also finding it difficult to get established a robust system to enable this data

collation from their customers on a monthly basis including data formats covering all information needed to calculate the UFCE.

Issues related to data gathering, analysis, computation and assessing incremental provisioning and capital requirements are also cause of concern for the banks.

Given the unending staff shortage problems, they find it difficult to allocate this responsibility to different functions within the bank adding to their existing workload.

3.29.7 Calculation of UFCE and evaluation of Risks

Despite all these instructions/reiterations, unhedged forex exposure risks are not being evaluated rigorously and built into pricing of credit by the banks. Earlier in February 2012, RBI had advised banks to rigorously evaluate the risks arising out of unhedged foreign currency exposure of the corporates and price them in the credit risk premium while extending fund-based and non-fund-based credit facilities. Banks were also advised to consider stipulating a limit on unhedged position of corporates on the basis of banks' Board-approved policy. Despite these instructions, these risks are not being evaluated rigorously and built into pricing of credit. However, banks are finding it difficult primarily due to following major reasons:

Unhedged exposures in each monthly bucket is required to be evaluated from time to time, by comparing the benchmark rates with the market rates for respective maturities to determine the notional gain or loss on the unhedged exposures.

Risk profile of a capital exposure is different from a trade exposure. Hedging principles also accordingly differ for the same depending upon the nature and maturity. The assessment approach for both these two categories is different and depends on market outlook and forecasts for the currency fluctuations for short-term to medium term period. Hence, unhedged exposures are to be evaluated separately both for revenue and capital

category of exposures.

Unhedged exposures in currencies, other than USD are to be evaluated separately as the cross-currency risk on such exposures poses a challenge in view of the extreme volatilities in the major currencies against US dollar.

Notional losses or gains determined out of exposure evaluation are to be monitored closely to decide the timings and appropriateness of the hedges.

Implementation of these requirements is dependent on a robust MIS for getting sufficient information and data on a regular basis from the corporate customers. In addition, the information collected on unhedged foreign currency exposure on monthly and quarterly basis is also to be shared with outside agency like CRLIC, CIBIL, RBS of RBI etc.

3.29.8 Unhedged Exposure of Rated Companies

In terms of RBI norms, SMEs having exposure of more than Rs. 5 crores from banking industry are required to obtain external credit rating. Hence, as a measure to putting pressure on corporates/ SMEs to hedge more, rating agencies and analysts should also take note of hedging policies of the assessing companies. But change in the rating may distort credit pricing of the corporate. For instance, if a 'AAA' rated company has unhedged exposures in its books, it will protest an increase in the credit cost on account of change in the rating. If the lending bank doesn't agree to his call, the company may switch over to other institutions, which may impact profitability of lending bank.

3.29.9 Corporates' Disliking for resorting to Hedging

In terms of extant instructions, banks should put in place a proper mechanism to rigorously evaluate the risks arising out of unhedged foreign currency exposure of corporates and price them in the credit risk premium. There is an underlying motivation for the corporates to keep their exposures un-hedged as hedging has a cost. But banks cannot afford to be

complacent against such risky practices. Theoretically, the foreign exchange rate can move to any level and expose the corporate and consequently, the bank, to infinite risk. Therefore, for good order, it is necessary that the banks, on the basis of an internal Board-approved policy, stipulate limits on the un-hedged position of corporates. Despite the fact that the cost of calculating such exposures to client will increase in the cost of credit extended to them, they should ensure that the risk of unhedged foreign currency exposures is effectively incorporated in their credit rating system and loan pricing policies adequately reflect the overall credit risks.

3.29.10 UFCE- Impact on Large Corporates vis-à-vis SME

Wasseman,(2010) suggests that although the business models of large enterprises and small and medium enterprises are fundamentally different, challenges of foreign exchange management are central to both type of industries. Experts opine that it is not easy to impose UFCE norms on small corporates/ SMEs. Especially with respect to submission of information/ data. While large companies with sophisticated treasury operations furnish hedging details easily, banks find it difficult in collecting UFCE data, information from SMEs/ small corporates.

3.29.11 NPA riddled banks Vs. Requirement for Provision and Capital on UFCE of clients

There have been instances where a few corporates suffered losses from their large unhedged forex exposures. These losses reduced their capacity to service their bank loans which turned NPA.

Experts opine that there is no guarantee that corporates who hold un-hedged foreign currency exposure will not fail to honour their commitments and that banks would be constrained with more NPAs due to exchange loss of their customers. Riddled with ever increasing NPAs burden, banks have found themselves stuck in an unwarranted situation

where they are required to make more provisioning and provide more capital for their clients' unhedged forex exposures.

3.29.12 Structured Products-Up-Selling or Mis-selling

Foreign exchange derivatives have become an extremely sore spot for corporate India. Greed of quick money makes many of them undertake structured foreign exchange derivatives that even specialists fear to tread.

Selling of complex forex derivatives shot up in volume in 2007 when in the aftermath of the subprime crisis, rupee started getting stronger. Exporters apprehended that dollar would continue to weaken and that would cause losses to the exporters. So the demand for forex derivatives shot up. Bankers, especially foreign and new generation private sector banks turned on the innovation mill and started aggressively marketing forex derivatives. They worked out zero-cost structures/strategies for their corporates clients so that they need not to pay out any premium. Banks asked the clients to buy some option(s) and sell other(s) so that the premium paid for buying an option is set-off against the premium received for selling another. With their advice, many corporates simultaneously bought options and written options and later, when the written option led to huge losses they blamed for their misadventure to their advisor banks and knocking the legal doors against them.

Today, the woes of forex derivatives are bothering lots of corporates all over the country. In particular, the pains of the mid-sized exporters are particularly acute, as fighting with the bankers for them is like fighting with the local police station. An expert observes:

"It is mainly medium-scale corporates who are bearing these huge losses due to the unexpected currency movements. These medium-scale corporates, mostly, lack the proper expertise in the risk management and use of derivative tool areas. And limited liquidity problem washes out their net profit if the market suddenly turns against them."

Even where borrowers have contested the right of the banks to claim losses, bankers have gone ahead and declared the borrowers as "wilful defaulters."[12]

3.30 Who is responsible

On analysis of respondents' observations, it is found that many participants expressed their concerns over the extension of supportive measures by GoI and banks, especially with their banks with respect to providing cheaper and user-friendly exposure management hedging products. They share that various government, regulatory and banking bodies also fail to provide their advices in time and hence they are unable to initiate proactive measures for managing their currency exposure.

RBI should provide technical expertise and consultancy services to all the small and medium SMEs in tackling their foreign exchange risk, as these entities lacks the required skill in dealing with foreign exchange risk and lacks technical expertise in measuring the risk of complex foreign exchange derivative contracts.

SEBI should give some leeway to small and medium entities related to hedging of foreign exchange transactions, such as booking of contracts without having underlying exposure and also for cancelation of booked contracts, without much procedural requirements.

After the removal of foreign exchange controls by the government of India, Indian corporates have started implementing foreign exchange risk management. Their

[12] Tirupur garment exporters are fighting against banks seeking justice in the alleged derivatives scam for long. For details -Derivatives Scam: Exporters' wait for justice continues-R Vimal Kumar, The Hindu Published on September 14, 2016

operations in this area are subject to a host of constraints.

The findings conclude that the most frequently mentioned factors which gave entities the greatest difficulties in dealing with foreign exchange risk management belonged to two broad categories: government and company factors. This is an understandable result as foreign exchange risk management in India is in its early stages and both the government and the corporate find it difficult to deal with.

But one of the finance expert participant shares:

"*…… it is not the job of the government or the regulatory authority to help companies avoid mistakes. If they do not have the discipline to mark-to-market their positions daily to assess their losses, they are bound to hit by the unfavourable market circumstances.* "

Experts say that neither the banks nor the corporates can be held alone responsible for the derivative losses.

3.30.1 Selling/ buying of structured products

Rupee appreciation against hard currencies, especially dollar, motivates Indian corporates to enter into currency derivative contracts to hedge their positions. Few of them undertake their positions for speculations also. Banks also oblige them in wake of good commission and other charges. By twisting various regulatory guidelines, accounting standards, they sell leveraged products to corporate clients. A part of the products was sold for hedging the currency risk and a major portion is said to be for speculative gains. This results in a situation where if a corporate has taken currency bets, but adverse movements in the dollar and other currencies exposes him to an amount which may be twice or thrice his export income.

Despite such incidents of losses from structured forex derivatives products, some experts contend that Indian foreign exchange derivatives market is in developing state, hence like

any other market, whether share, currency or bond, certain mishaps are bound to happen. They put forth that such incidents are required to happen to understand the loopholes in the actual functioning by the institutions, policy makers and regulatory authorities. They supplement that such events help market turning more efficient, transparent and disciplined and achieving maturity level. (Frank Partnoy, 1997, Satyajit Das, 2006)

3.31 Suggestions

Banks may ensure that their internal policies, guidelines, systems and procedures and are calibrated towards the management of their currency-induced credit risks borrowers, whose capacity to repay is sensitive to changes in the exchange rate and other market variables.

At the time of appraising and assessing their credit requirements itself, banks should also ensure that the risk of unhedged foreign currency exposure effectively built in internal credit rating system and suitable limits are fixed on the basis of overall risk appetite of the borrower. Later, if need arises, banks can reduce their risk either by reducing the exposure to these borrowers or by encouraging them to reduce their currency mismatches by hedging foreign currency exposures.

Few experts suggest a proper masala bonds base of lenders as a proactive measure.[13] Rupee denominated masala bonds refer borrowings by Indian entities in overseas markets. Masala bonds are a good idea to shield corporate balance sheets from exchange rate risks. They are issued to foreign investors and settled in US dollars. Hence the currency risk lies

[13] SEBI tightens norms for issuance of credit ratings, Palak Shah, The Business Line, Published on July 4, 2017

with the investor and not the issuer, unlike external commercial borrowings (ECBs), where Indian companies raise money in foreign currency loans. While ECBs help companies take advantage of the lower interest rates in international markets, the cost of hedging the currency risk can be significant. If unhedged, adverse exchange rate movements can come back to bite the borrower.

But in the case of masala bonds, the cost of borrowing can work out much lower. Secondly, masala Bonds transfer currency risk to the lender. By transferring it to the lender, India's domestic banking system may partially be insulated from the fallout of a sudden depreciation of the rupee against the dollar. Companies with foreign currency borrowings which are unhedged represent a risk to the domestic financial system as these companies also borrow at home.

Bond aficionados say bond markets reduce the dependence on bank finance, price risk more efficiently, provide a ready source of long-term finance without accompanying asset-liability mismatch problems, and, most importantly, are able to act against troubled borrowers more swiftly and effectively than banks. They also help develop the derivatives market, facilitating development of hedging mechanisms and enabling greater risk diversification.[14]

3.31.1 Customer Appropriateness and Suitability

RBI guidelines specify that "market-makers should undertake derivative transactions, particularly with users with a sense of responsibility and circumspection that would avoid,

[14] Why bond markets can't substitute for bank finance at our stage of development, Mythili Bhusnurmath. The Economic Times Published on October 5, 2015

among other things, misspelling. It also clearly says that "it may also be noted that the responsibility of „Customer Appropriateness and Suitability" review is on the market-maker." Hence, the onus of establishing whether the customer has a suitability and appropriateness policy, and whether the derivative in question is suitable and appropriate for the user, is on the authorized dealer.

3.31.2 Implementation of Legal Entity Identifier

Effecting 1st January, 2018 RBI has implemented Legal Entity Identifier (LEI 15)system in OTC for all market players, participating in rupee interest rate derivatives, foreign currency derivatives and credit derivatives

Earlier in June 2017, RBI has advised all current and future participants in OTC to obtain the unique LEI code within the prescribed timelines, ending 31.03.2018. RBI has specified that entities without an LEI code would not be eligible to participate in the OTC derivative markets after the date specified in the schedule.

The LEI code has been conceived as a key measure to improve the quality and accuracy of financial data systems for better risk management. LEI is a 20-character unique identity code assigned to entities who are parties to a financial transaction.

3.31.3 Introduction of Simplified hedging facility-

Under Simplified hedging facility companies can hedge exchange rate risk to hedge exchange rate risk on transactions, contracted or anticipated, permissible under Foreign

[15] Legal Entity Identifier (LEI) system to be implemented in phases: RBI, The Business Line, Published on June 2, 2017

Exchange Management Act (FEMA). The scheme is going to effective from January 1, 2018. for exposure of up to USD 30 million or its equivalent, on gross basis.

The facility is being introduced to simplify the process for hedging exchange rate risk by reducing documentation requirements, avoiding prescriptive stipulations regarding products, purpose and hedging flexibility, and to encourage a more dynamic and efficient hedging culture.[16]

Unhedged foreign currency exposures of corporates are a cause for concern, as they pose a risk to individual corporates as also to the entire financial system, there is definitely a need to bring in much more stringent norms for reducing the risks undertaken by borrowers instead of banks being made scapegoats for the formers' speculative misadventures.

Wherever such UFCEs are high, banks need to reduce the associated risks by initiating the steps viz. reducing these exposures, encouraging borrowers to reduce their currency mismatches by hedging foreign currency exposures etc. A few finance experts and senior bankers share that at this juncture of time there is definitely a need to bring in much more stringent norms for reducing the risks undertaken by borrowers instead of banks being made scapegoats for the formers' speculative misadventures.

Banks are required to take such steps as are legally permissible and practically feasible with such modifications as appropriate to protect their loans turning bad due to the losses incurred by the borrowers on account of their un-hedged currency exposure.

[16] The Times of India , Published on November 10, 2017

If the borrowers do not have natural hedging through exports, they should be advised to cover mandatorily their positions through financial hedging with banks and institutions Such a step will be in the best interest of the commercial banks which are now bleeding with high NPAs and face pressure on their profitability.

4. Chapter- Research Methodology

4.1 Introduction

The previous chapters have highlighted the conceptual background of Risks from FCEs and their impact. This chapter describes the research design, sampling method, approach to data collection and analysis employed in this study.

Research methodology is the systematic, theoretical analysis of the methods applied to a field of study. Research methodology can be described as the framework associated with a particular set of paradigmatic assumptions that can be used to conduct research (O'Leary, 2004). This chapter discusses research methodology adopted in this study, explains the sample selection, describes the procedure used in designing the instrument, collecting the data including methods implemented to maintain validity and reliability of the instrument etc. The chapter concludes with a discussion of the methods used for the statistical analysis of the data.

4.2 Research Design

Research design essentially refers to the plan or strategy of shaping the research (Henn, Weinstein & Foard, 2006), that might include the entire process of research from conceptualizing a problem to writing research questions to data collection, analysis, interpretation and report writing (Creswell, 2007).

McCusker and Gunaydin (2014) states that if a researcher wants to find out more than just the numbers in a field of study, it is best to use exploratory research to conduct it. Exploratory research, also known as qualitative research, seeks to discover knowledge about a topic and add new insights (Saunders & Lewis, 2012). The aim of this method is to "discover rather than test variables" (Corbin and Strauss, 2008) about a topic that the researcher has limited knowledge of (Saunders & Lewis, 2012).

The research design of this study aims to have a better understanding of how exporting SMEs manage risks from Foreign Currency Exposure (FCE). The research questions of the

study seek to understand the methods, choices, practices, experiences, interpretations, approaches of the exporting/ importing Indian Corporates/ SMEs in identification and management of Risks from their Foreign Currency Exposure and also their banks get affected from these risks.

Accordingly, for the purpose use of an exploratory descriptive research design was found suitable for the study, keeping in view of research objectives. In exploratory descriptive research method data is typically collected through a questionnaire survey, interviews or observation(s) (Gay & Diehl, 1992). Anderson (2004) advises that surveys using questionnaires are perhaps the most widely-used data-gathering technique in research. Richardson (2005) also suggested that solutions and new ideas can surface from this type of research. Salkind (2000), Marshall et al, (2006) added that a descriptive research helps in providing a clear answer of who, what, when, where, why, and way (6 Ws) of the research problem.

Accordingly, an exploratory qualitative study was conducted to collect data, strengthen the confirmation of hypotheses and analyse and interpret the quantitative results. The qualitative research was aimed to have a deeper insight into the understanding and influences of FCE Risks of the Indian SMEs/ corporates and how they impact the outcome.

4.3 Unit of analysis

This study was intended to understand the strategies that SMEs deploy in managing risks from their foreign exchange exposure and their impact on the banks. The study also sought to understand if these methods had been effective in reducing the exposure risk. The unit of analysis for the study was the methods that SMEs use to manage the risk of foreign exchange exposure and the strategies banks adopt in mitigating these risks.

4.4 Study Population, Sample and Sampling

Experts opine that collection of all possible observations of a specified characteristic of

interest is called a population while a collection of observations representing only a portion of the population is called a sample.

4.4.1 Population

Levin (1978) states that a population is a collection of all elements of a study and about which the conclusions are to be drawn. Since the subject study addresses the issues/ challenges related with the FCE Risks from the perspective of Indian small corporates/ SMEs and the SCBs, the universe for the study was chosen that of Indian SMEs/ small corporates that are at risk of transactional, translational and economic foreign currency exposure and the Scheduled Commercial Banks(SCBs) in India. SCBs consists of PSBs, PvtSBs and FBs.

Cleary et al. (2012) advise that in qualitative research, participants are chosen according to the contributions they may make to the topic of study. Accordingly, population for the study was chosen from the SMEs/ small corporates engaged in international/ overseas trading activities registered with the export and import councils, industry associations, trade councils etc. and having credit facilities/ borrowings with the SCBs. The population was targeted with respect to their Sector wise, Industry wise exposure and their geographically location. Based on the parameters, suggested by FICCI, scope was further focused to identify SMEs on the basis of their turnover as most of the time banks assess credit facilities to the SMEs based on their, inter-alia, turnover.

Keeping in view the research objectives as well as the time and resource constraints, the population of the study was focused on the SMEs participants, having foreign currency exposure. The scope was further reduced to the SMEs having FCE but either not hedged or partially hedged.

4.4.2 Sampling Design

The key to qualitative research design is sampling (Robinson, 2014). A sample is a subset of the population being studied. Cooper and Schindler (2001) define sampling frame as a list of elements from which the sample is actually drawn and that is closely related to the population. Sampling technique used in this research is purposive and convenience sampling approach. This method was used since it enabled us to use our judgment in selecting SMEs/ FEs/ Bankers who may answer the research questions and meet the objectives (Saunders, et al., 2000).

In wake of SMEs/ corporates belonging to different sector/ industry, geographical location etc., the sub-population for this study was required to be homogenous. In addition, Anderson & Pain (1975), Lefebvre et al. (1997), Oswald et al., (1997), Frishammar (2006) also hold that the managerial perceptions are important in highlighting the key significant issues. Accordingly, conventional sampling method was used for selecting the participants. Mangers/ senior authorities from SMEs/ Corporates across various industry sectors, of different sizes within the SME category were selected for participation. The financial Experts were selected from the league of professionals like Chartered Accountants, MBAs, senior finance executives/ accountants, working with the respective entities/ firms for long. And bank officials working with PSBs and PVSBs, out of the universe of SCBs, were selected, as these two category of banks suffer most the impact of FCE Risks of their borrowal clients. Sampling was based on literature review, interaction with the authorities from industry, corporates/ SMEs, Finance Experts, Banking experts and other knowledgeable persons etc. The researcher ensured that there was diversity in the group by not selecting individuals in the same industry as participants.

The sample criteria was found to be in conformity with the various parameters introduced by Morse (2000). First, the scope of the research was focused on SMEs decision making process for managing their FCE risks and Bankers' opinion about the impact of extending

credit facilities to these SMEs/ corporates, especially with respect to their UFCE including observations of Financial Experts on these aspects. Second, information was obtainable through questionnaires, interviews, discussions as the topic of risks from FCE is obvious and clear. Third, data are on target (directly related to the topic) as participants were able to reflect on FCE Risks and express themselves accordingly through questionnaires, interviews, discussions.

4.4.3 Sample size

The sample size is also a matter of contention in most qualitative studies. If the sample size is too small it will not give enough depth and breadth, and if it is too big it may create artificial results (Cleary et al., 2012). Hence with a view to carry out an intensive analysis of participants' opinions (Patton, 2001; Robinson, 2014), sample size for the study was decided in line with the various criteria introduced by Morse (2000). First, the scope of the research was considered to be not too broad i.e. it focused on FCE Risks of SMEs/ corporates and their impact of Banks. Second, information was obtainable through questionnaires, interviews, discussions, as the topic of FCE Risks and impact is obvious and clear. Third, participants were able to offer their views/ opinions on various aspect of FCE risks easily and readily. The sample size was determined accordingly using purposive technique and 146 participants, comprising of 86 officials from corporates/ SMEs and 60 from Banking and Finance sector (comprising of 36 officials from SCBs and 24 professionals from Finance sector) were selected purposefully for responding questionnaire. This was found to be sufficient to study the risks from FCE of Indian SMEs/ small corporates.

4.5 Data Collection

Data plays a very important role in conceptualization and understanding of any subject. Patton (2001) advises that there are three methods that can be used to collect data in qualitative research, observation, interviews, and documents. Observations are fieldwork that is carried out to describe and document the behaviour of individuals and communities.

Interviews are open-ended questions that investigate the knowledge of the participants. Documents are recorded materials.

In this study, primary data as well as secondary data was collected to establish linkages between independent/dependent variables and FCE Risks for analysis and also to achieve the objectives of the study.

Primary data was collected through structured questionnaire and unstructured interviews. In the questionnaire following methods were used to measure and judge the responses from the participants:

- Likert scale technique
- Inductive and deductive method

In the questionnaires questions on various following variables related to FCE were included to study impact of Risks from FCE of corporates/ SMEs on Banks:

- FCE Risks Awareness
- FCE Risks Assessment
- FCE Risks Identification
- FCE Risks Measurement (Degree of risk/ category)
- FCE Risks Management - Hedging Technique (HGT)
- FCE Risks Decisions for Hedging or Unhedging
- FCE Risks Internal hedging strategies
- FCE Risks External hedging strategies
- FCE Risks from Unhedging
- Impact on Banks on Unhedging

Besides questionnaires, information was also gathered through unstructured interview with the owners/ directors/ senior officials/ managers in SMEs/ small corporates. Financial

Experts, Bank officials were also interviewed to elicit information on FCE Risks, mitigating strategies and their impact.

4.6 Questionnaire Design

Meyer et al. (2004) state that the aim of a questionnaire is to find out what a selected group of participants do, think or feel. For the study, two questionnaires were developed to collect primary data. The questionnaires consisted mostly of closed-ended questions and a few open-ended questions. In the open-ended questions, the participants were requested to respond in writing, whereas in closed-ended questions, options were determined by the researcher (Burns & Grove, 1993).

The contents and items for the questionnaires were conceptualised on the basis of research objectives and after having discussions, meetings with the Corporates/ SMEs, Finance Experts, Bank Officials etc. to elicit responses on various aspects viz –

- Service Delivery mechanism of the Banks, competitive pricing and service charges, ECGC premium
- Strategies used to manage the exposure, i.e. hedging, selective hedging, no hedging, by the corporates and on bankers' part levying penal rate of interest, other qualitative measures etc. for managing their FCE risks by the SMEs
- Identification, awareness, assessment, measurement and management of FCE Risks from Exporters'/ importers' point of View
- Bankers' risks in extending credit facilities to exporters/ importers
- Risks in extending Pre-Shipment and Post-Shipment Finance
- Assessment of Severity of FCE Risks
- Risks attached with Contracted Exposure, Probable Exposures
- Risks attached with Derivative Instruments
- Risks attached with Forward Contract, Options Contract, Covered Options

Contract, Futures Contracts

- Risks from Up-Selling or Mis-selling of Structured Products
- Risks from Non-Disclosure on Foreign Currency Induced Risks
- Risks from UFCE of Corporates/ SMEs
- Impact on Banks on UFCE of Corporates etc.

Some of the questions were related to ranking causes, impact, assessment, hedging techniques etc. Through open ended questions, participants were requested to offer their suggestions with respect to causes, impact of risks from foreign currency risk exposures, suggestions for mitigating their severity and other related aspects etc. Dichotomous questions having options like Yes or No were also included in the questionnaires. Five Point Likert scale was used as a tool to assess the responses and analyse the causes of FCE Risks. The anchors included in the Likert Scale were:

Table 5.1 : Anchors				
1= Strongly Agree	2 = Agree	3 = No opinion	4= Disagree	5 = Strongly Disagree

For the study interviews were conducted within an interview framework developed prior to the meetings with the relevant participants. To this end, open- ended and semi-structured questions were developed as part of the interview protocol, and a list of the main questions was given to informants in advance. The interviews questions normally confined to the above aspects/ factors. This enabled better comparison across the cases, as well as ensuring that the qualitative data were consistent enough to categorise and analyse (Schendel & Patton, 1978).

4.6.1 Survey Instrument Validity

To ensure the clarity, relevancy and appropriateness, developed questionnaires were tested for its validity and reliability. Validity refers to the extent to which an empirical measure adequately reflects the real meaning of the concept under consideration (Babbie,

2007). Validity is the extent to which a test measures what it is intended to measure. There are several ways to measure the validity including:

Face Validity: Whether at face value, the questions appear to be measuring the construct.

Content Validity: Whether all important aspects of the construct are covered. Clear definitions of the construct and its components come in useful here.

Criterion Validity: Predictive Validity: Whether scores on the questionnaire successfully predict a specific criterion.

Concurrent Validity: Whether results of a new questionnaire are consistent with results of established measures.

Content Validity is ensured by extensive literature survey, by using items which were validated in previous studies, interaction with banking experts, and experience of the researcher.

4.6.2 Survey Instrument Reliability

Reliability indicates the accuracy or precision of the measuring instrument (Norland, 1990). Reliability means consistency or repeatability of the measure and refers to random error in measurement. The reliability of the questionnaire was carried out by using a pilot test. The pilot study was conducted to pre-test the research instrument to reveal any gaps, inconsistencies, or contradictions, to seek the answer to the question—does the questionnaire consistently measure whatever it measures. The respondents at this stage included authorities from, SMEs, officers from a bank, a few chartered accountants, all not included in the sample. The data/ information obtained from them was used only to fine-tune the questionnaire. It was ensured that the data collected during the pre-test does not form part of the data used for the final analysis.

4.6.3 Major Segments to Study FCE Risks

The questions used were classified into following segments to study Risks from FCE of corporates/ SMEs and their impact on Banks (Table 4-1) :

Table 4-1 Major Segments to Study FCE Risks

Constructs	**Coding**	**Segment**
Risk Awareness	AWE	Perception
Risk Identification	IDN	
Risk Assessment	ASS	Causes
Risk Measurement (Degree of Risk/ Category)	MDRC	
Risk Management - Hedging Strategies and Techniques	MHST	Mitigation
Internal Hedging strategies	HDINT	
External Hedging strategies	HDEXT	
Unhedging	UFCE	Impact
Impact on banks	IMPT	
Source- Own computation		

The questions of all the above four segments, the FCE Risks' Perception, FCE Risks' Causes, FCE Risks' Mitigation, FCE Risks' Impact on Banks were finalised in the questionnaire after extensive literature survey and using items, those validated in the previous studies, interaction with the senior authorities from industry, corporates/ SMEs, Finance Experts Banking experts. These were tested during the pilot study and were fine-tuned. Cronbach's alpha was used for assessing the reliability of tests in other segments where Likert scales were used.

Cronbach's alpha is a measure of internal consistency, that is, how closely related a set of items are as a group. It is considered to be a measure of scale reliability. Cronbach's alpha is computed as the ratio of the true variation to the total variation (Dukes, K.A. 2005).

Cronbach's alpha can be written as a function of the number of test items and the average inter-correlation among the items and is computed as the ratio of the true variation to the total variation (Dukes, K.A. 2005).

$$\alpha = \frac{N \cdot \bar{c}}{\bar{v} + (N-1) \cdot \bar{c}}$$

Here N is equal to the number of items, c-bar is the average inter-item covariance among the items and v-bar equals the average variance.

The reliability coefficient (alpha) can range from 0 to 1, with 0 representing an instrument with full of error and 1 representing total absence of error. A reliability coefficient (alpha) of .60 or higher is considered acceptable reliability, Straub D, et al. (2004) but lower thresholds are sometimes used in the literature. Cronbach's alpha was calculated for those segments of questionnaire, each separately.

Table 4-2 Cronbach's Alpha Values

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items
0.686	0.665
Source: Own Computation	

As may observed from the Table- 4.2 Cronbach's alpha is 0.69 which is above acceptable level.

4.7 Secondary Data

The secondary data was collected from the websites of MSME Department, GoI, FICCI, ASOCHEM, RBI and CCIL on the population of SMEs and SCBs. Data was also obtained from various published sources on the population of SMEs & SCBs like RBI Report on Trends and Progress of Banking, Annual Reports of Banks, RBI Reports on Statistical Tables Relating

to Banks of India, RBI Monthly Bulletin, Report on Currency and Finance, Hand Book of Indian Economy and other similar magazines, articles, research papers etc. for arriving valid decisions in respect of objectives.

4.8 Research Hypotheses

Goode & Hatt (1952) share long back that without Hypotheses, research is unfocused and random empirical wandering. Sekaran(1999) shares that hypotheses are generated (and tested) from the theoretical framework developed with the help of concepts extracted from the literature survey. Hypotheses are about the relationships between research variables (predictors and criterion). Accordingly, within the frame work of the objectives detailed elsewhere in the study, major hypotheses were set for the study as detailed in the following Table 4.3 and 4.4:

4.9 Perception of SMEs/ Corporates on FCE Risks (Hypotheses)

Table 4-3 Perception of SMEs/ Corporates on FCE Risks (Hypotheses)

Hypotheses to Know the perception of SMEs/ Corporates		
Objectives To Know		**Hypotheses**
Perception of SMEs/ Corporates on Country Risks	HO1	There is no significant agreement among the SMEs/ Corporates (respondents) in the ranking of different causes of Country Risks with respect to FCE Risks.
Perception of SMEs/ Corporates on Commodity Risks	HO2	There is no significant agreement among the SMEs/ Corporates (respondents) in the ranking of different causes of Commodity Risks with respect to FCE Risks.
Perception of SMEs/ Corporates on different causes for FCE Risks emerging from Business & Economic Activities	HO3	There is no significant agreement among the Bankers/ Finance Experts (respondents) in the ranking of different causes of FCE Risks.

Perception of SMEs/ Corporates on Assessment of FCE Risks- (When)	HO4	There is no significant agreement among the SMEs/ Corporates (respondents) in the ranking of different causes for assessment (When) of FCE Risks
Perception of SMEs/ Corporates on Assessment of FCE Risks- (Why)	HO5	There is no significant agreement among the SMEs/ Corporates (respondents) in the ranking of different causes for assessment (Why) of FCE Risks
SMEs/ Corporates Perception for Not Adopting Hedging Strategies	HO6	There is no significant agreement among the SMEs/ Corporates (respondents) in the ranking of different causes for not adopting hedging strategies
Perception of SMEs/ Corporates on Internal Hedging Strategies	HO7	There is no significant agreement among the respondents SMEs/ corporates in the ranking of awareness/use of Foreign Currency Risk Internal Hedging Techniques / products by SMEs/ corporates.
Perception of SMEs/ Corporates on External Hedging Strategies	HO8	There is no significant agreement among the respondents SMEs/ corporates in the ranking of awareness/use of Foreign Currency Risk External Hedging Techniques / products by SMEs/ corporates.
Perception of SMEs/ Corporates on suggestions for FCE Risks Management	HO9	There is no significant agreement among the SMEs/ Corporates (respondents) in the ranking of suggestions for improving management of Risks from Foreign Currency Exposure of SMEs/ Corporates

4.10 Perception of Bankers/ Finance Experts on FCE Risks (Hypotheses)

Table 4-4 Perception of Bankers/ Finance Experts on FCE Risks (Hypotheses)

Hypotheses to Know the perception of Bankers/ Finance Experts		
Objectives to Know		**Hypotheses**
Perception of Bankers/ Finance Experts on different causes for FCE Risks emerging from Business & Economic Activities	HO1	There is no significant agreement among the Bankers/ Finance Experts (respondents) in the ranking of different causes of FCE Risks.
Perception of Bankers/ Finance Experts on different causes for FCE Risks emerging from Business & Economic Activities - As Per Length of Experience	HO2	There is no significant agreement among the Bankers/ Finance Experts (respondents) in the ranking of different causes of FCE Risks as Per Length of Experience of Bankers/ Finance Experts
Perception of Bankers/ Finance Experts on Reasons for non-adoption of Hedging strategies by SMEs/ Corporates	HO3	There is no significant agreement among the Bankers/ Finance Experts (respondents) in the ranking of reasons for non-adoption of Hedging strategies by SMEs/ Corporates
Perception of Bankers/ Finance Experts on Reasons for Adopting Internal Hedging strategies by SMEs/ Corporates	HO4	There is no significant agreement among the Bankers/ Finance Experts (respondents) in the ranking of awareness/use of Foreign Currency Risk Internal Hedging Techniques / Products by SMEs/ corporates.
Perception of Bankers/ Finance Experts on Reasons for Adopting External Hedging strategies by SMEs/ Corporates	HO5	There is no significant agreement among the Bankers/ Finance Experts (respondents) in the ranking of awareness/use of Foreign Currency Risk External Hedging Techniques / Products by SMEs/ corporates.
Perception of Bankers/ Finance	HO6	There is no significant agreement among the

Experts on Reasons behind UFCE of SMEs/ Corporates		Bankers/ Finance Experts (respondents)in the ranking of different reasons behind UFCE of SMEs/ Corporates
Perception of Bankers/ Finance Experts on Suggestions for managing FCE Risks of SMEs/ Corporates	HO7	There is no significant agreement among the Bankers/ Finance Experts (respondents) in the ranking of suggestions for managing Risks from Foreign Currency Exposure of SMEs/ Corporates

4.11 Hypotheses Testing

Based on the data classified and tabulated, hypotheses testing was conducted through parametric or non-parametric tests, depending upon the derived hypotheses and data collected. In hypotheses analysis and testing level of significance and probability was checked and interpreted to understand the outcome of the study. For testing and hypotheses analysis different statistical tools and software such as MS Office Spreadsheet, SPSS etc. was used.

4.12 Analysis of Data

After collection of data, they were arranged in groups and classes to make the data ready for analysis as it is difficult for raw data to analyse. After data classification process, tabulation of data was undertaken. The collected data were presented and analysed on the basis of research questions, using the MS Office Spreadsheet, SPSS software package. These included frequencies, total scores, means and percentages. Spreadsheets were used in order to come up with appropriate charts and tables for data presentation, while mean scores were used to rank the responses.

4.13 Descriptive Analysis

According to Goode & Hatt (1952) data analysis relates to the techniques of representing

the data and the methods of logically ordering them so that questions can be raised and answered. The simplest form of representing is Frequency Distribution or Tabulation. In summary of a frequency distribution, measures of central tendency such as mean and measures of dispersion such as standard deviation and covariance (COV) are included. Accordingly, the primary data collected were analysed by using descriptive statistical analysis.

Frequency analysis and comparisons were done through the Mann-Whitney U test, based on probability values of $p>0.05$. Robson (2002) describes Mann-Whitney U test as the non-parametric counterpart of the t-test for independent or unpaired groups. The Mann-Whitney U test is a well-known test that works by producing one overall ranking which is made from both groups being investigated. These combined rankings are then used as the basis for calculating whether there is a statistically significant difference between the two groups (Denscombe, 2003).

'P-value' assesses the actual probability that research findings are more than coincidental. Conventional p-values are .05, .01 and .001, which indicates the probability of the findings occurring by chance as 5/100, 1/100, or 1/1000 respectively and 'P' value at significance of .05 was used in the study. Generally, the lower the p-value, the more confident researchers can be that findings are genuine (O'Leary, 2004). Welman, et al. (2005).

As a test of independence Chi Square ($\chi 2$ test) was carried out in order to know about whether the differences observed among effect of different variables and Risks from FCE.

Kendall's coefficient of concordance indicates the degree of association of ordinal assessments made by multiple appraisers when assessing the same samples. Kendall's coefficient values can range from -1 to 1. A positive value indicates positive association. A negative value indicates negative association. The higher the magnitude, the stronger the association.

Suppose that object i is given the rank r ij by judge number j, where there are total n objects and m judges. Then the total rank given to object i is

$$R_i = \sum_{j=1}^{m} r_{i,j},$$

and the mean value of these total ranks is

$$\bar{R} = \frac{1}{n} \sum_{i=1}^{n} R_i.$$

The sum of squared deviations, S, is defined as

$$S = \sum_{i=1}^{n} (R_i - \bar{R})^2,$$

and then Kendall's W is defined as

$$W = \frac{12S}{m^2(n^3 - n)}.$$

4.14 Conclusion

The target population were described in this chapter. The chapter also described and justified the methodology used in the research design, measuring instrument, construction of the questionnaire, sampling process, data collection method and statistical package used for the statistical analysis. In the following chapter, the results of empirical study on FCE Risks of SMEs/ Corporates and their Impact on banks are discussed.

5. Chapter- Quantitative Analysis

The previous chapter highlighted research design, sampling method, approach to data collection and analysis employed in this study. This chapter present description of data collection and analysis.

5.1 Background- Data Analysis and Presentation

Data was collected on the basis of research questions sent to SMEs/ corporates. It was ensured that the data obtained contain details about the respondent firms instead individuals representing entity/ firm, organisation. It was also ensured that the respondents met the criteria for being classified as SMEs.

Data analysis was undertaken through SPSS software package and MS Office spreadsheet for arriving total scores, means and percentages etc. Spreadsheets were also used to come up with appropriate charts and tables for data representation.

Chi Square ($\chi 2$ test) as a test of independence was carried out in order to know about the differences observed among the effect of different variables and FCE Risks. Kendall's coefficient of concordance indicates the degree of association of ordinal assessments made by multiple appraisers when assessing the same samples. Kendall's coefficient values can range from -1 to 1. It represents the ratio of the variability of the total ranks for the ranked entities to the maximum possible variability of the total ranks. A positive value indicates positive association. A negative value indicates negative association. The higher the magnitude, the stronger the association. Anova analysis and F-test was used to know the significant difference between experience/role/department of the bank officials and their perception towards the causes and impact of FCE Risks. Mann-Whitney U test was computed to test the mean differences regarding the causes and impact of FCE Risks, particularly on banks.

5.2 Data Analysis and Presentation- Questionnaires

Out of in all 250 questionnaires, 150 questionnaires were administered to SMEs/ corporates and 100 questionnaires to bank officials, chartered accountants, forex treasury dealers

with the banks and industry, finance controllers and other professionals looking after the finance and accounts work in their SMEs/ small corporates. The professionals from finance industry were having either professional qualifications viz chartered accountant, MBAs, Diploma in Treasury and risk management and/ or having hands on experience in working in the area of forex for their respective organisations like accountants, or other middle management level staff looking after day to day banking and other financial operations for their organisations.

Based on the experience, knowledge and concern for the topic, questionnaires were designed covering the major areas/ factors related to identification, awareness, assessment, measurement and management of FCE risks both from exporters'/ importers' point of view as well as of bankers, risks in extending credit facilities to exporters/ importers, strategies adopted to manage the exposure, hedging techniques, risks attached with derivative instruments, risks from UFCE of Corporates/ SMEs, Impact on banks on UFCE of Corporates etc.

Besides questionnaires, information was also gathered through unstructured interview with the owners/ directors/ senior officials/ managers in SMEs. Financial Experts, Bank officials were also interviewed to elicit information on FCE Risks, mitigating strategies and their impact.

Following Table 5.1 and Table 5.2 show a summary of the questionnaires administered to each category of respondents and the response rate as well.

5.2.1 Questionnaire and Interview Success Rate

Table 5-1 Questionnaire and Interview Success Rate

Particulars	Target respondents	Responded	Incomplete	Successful	Success Rate(%)
Questionnaires Sent					
SMEs/ Corporates	150	108	22	86	50.50%
Bankers/ Finance Experts	100	84	24	60	60.00%
Total Questionnaires sent	250	192	46	146	58.40%
Interviews Conducted					
Interview conducted with respondents	25	25	-	25	100%
Source: Own computation					

Out of 150 questionnaires served to SMEs/ corporates, only 108 responded. Out of which 22 were found incomplete and only 86 were found to be at acceptable level. The response rate was 58.40%.

The responses of the bank officials and finance experts are discussed further in the document.

5.3 Section-1 - Perception of SMEs/ Corporates causes for Risks from FCE, their impact and suggestions etc.

5.3.1 Respondents SME/ Corporates Bifurcation

Bifurcation of respondents (SME/ Corporates) is detailed hereunder (Table- 5.2) :

Table 5-2 Respondents SME/ Corporates Bifurcation

Industry	Target respondents	Responded	Incomplete	Successful	Success Rate(%)
IT and Software	20	16	3	13	65.00%
Handicrafts	25	19	2	17	68.00%
Textiles and readymade garments	25	21	2	19	76.00%
Dimensions stones, marbles granites and articles of stone, mica	20	17	3	14	70.00%
Gem and Jewellery	20	16	2	14	70.00%
Carpet durries	10	3	2	1	10.00%
Animal agro and food products	10	3	2	1	10.00%
Tourism	20	13	6	7	35.00%
	150	108	22	86	50.50%

The details of SMEs/ Corporates surveyed as per questionnaires responses are furnished in the following paras.

5.3.2 Perception on Causes for Country Risks by SMEs/ Corporates

Table 5-3 Perception on Causes for Country Risks by SMEs/ Corporates

Causes for FCE Risks	**Mean**	**Rank**
Buyers/ Sellers Geographically separated	7.0167	1
Buyers/ Sellers Not known to each other	6.9667	2
Different legal and political systems	5.9833	3
Different languages, culture and religion	5.5333	4
Different currency areas	5.5333	5
Source: Own computation		

It can be seen from the Table- 5.3 that the mean score is highest in respect of foremost factor Buyers/ Sellers Geographically separated. The second and third significant factors were Buyers/ Sellers Not known to each other and Different legal and political systems respectively. Different languages, culture and religion and Different currency areas were ranked moderately. It may be concluded, therefore that, factors specific to different causes of Country Risks with respect to FCE Risks were Buyers/ Sellers Geographically separated and Buyers/ Sellers Not known to each.

Table 5-4 Test Statistics

Kendall's Coefficient of Concordance– Test Statistics	
N	86
Kendall's W	.311
Chi-Square	149.298
df	8
Asymp. Sig.	.00001
Source: Own computation	

The Kendall's coefficient of concordance (W) was computed and the results are furnished in Table 5.4 . The calculated W was 0.311 indicating a fair degree of agreement among SMEs/ Corporates in the ranking of different causes of Country Risks with respect to FCE Risks. The following Hypotheses was formulated and tested.

HO1	There is no significant agreement among the SMEs/ Corporates (respondents) in the ranking of different causes of Country Risks with respect to FCE Risks.

We found out the critical value through computation of $\chi 2$ distribution values, with confidence of $1 - \alpha$, and df = n – 1. Comparing the p < 0, 000001 with the significance levelα = 0.05, the null Hypotheses was rejected that there is significant agreement among the SMEs/ Corporates (respondents) in the ranking of different causes of Country Risks with respect to FCE Risks. (Table 5-4).

5.3.3 Perception on Causes for Commodity Risks by SMEs/ Corporates

An attempt was made to know the perception of the respondents with regard to the ranking of different causes of Commodity Risks with respect to FCE Risks. Four items were identified with two possible responses namely YES (1) and NO (2) for the questions and $\chi 2$ test was computed to test the significance. The responses are furnished in Table 5.5.

Table 5-5 Perception on Causes for Commodity Risks by SMEs/ Corporate

Risks arising from Not receiving the Goods	**Mean**	**Rank**
As per Agreed Quantity	7.0167	1
As per Agreed Quality	6.9667	2
As per Terms of Delivery	5.9833	3
Properly Packed	5.5333	4
Source: Own computation		

It can be seen from the Table- 5.5 that the mean score is highest in respect of foremost

factor risks arising from not receiving the goods as per agreed quantity. The second and third significant factors were risks arising from not receiving the goods as per agreed quality and as per terms of delivery. Risks arising from not receiving the goods as per packaging was ranked moderately. It may be concluded, therefore that, factors specific to different causes of Commodity Risks with respect to FCE Risks were risks arising from not receiving the goods as per agreed quantity and quality.

Table 5-6 Test Statistics

Kendall's Coefficient of Concordance– Test Statistics	
N	86
Kendall's W	.419
Chi-Square	191.752
df	6
Asymp. Sig.	.0001
Source: Own computation	

The Kendall's coefficient of concordance (W) was computed and the results are furnished in Table 5.6. The calculated W was 0.419 indicating a fair degree of agreement among SMEs/ Corporates in the ranking of different causes of Commodity Risks with respect to FCE Risks. The following Hypotheses was formulated and tested.

HO2	There is no significant agreement among the SMEs/ Corporates (respondents) in the ranking of different causes of Commodity Risks with respect to FCE Risks.

We found out the critical value through computation of $\chi 2$ distribution values, with confidence of $1 - \alpha$, and $df = n - 1$. Comparing the $p < 0,0001$ with the significance level $\alpha = 0.05$, the null Hypotheses was rejected that there is significant agreement among the SMEs/ Corporates (respondents) in the ranking of different causes of Commodity Risks with respect to FCE Risks. (Table 5.6).

5.3.4 Risks arising from Not receiving the Goods – As per Agreed Quantity

The results indicated that 64.38% of respondents agreed to the above statement and the relationship is significant as the $\chi 2$ value (29.67) is more than critical value. Hence, it can be concluded that there is significant agreement among the SMEs/ corporates (respondents) that risks arising from Not receiving the Goods – As per Agreed Quantity is one of the major concern for SMEs/ corporates (Table 5.6)

5.3.5 Risks arising from Not receiving the Goods – As per Agreed Quality

The results indicated that 68.49% of respondents agreed to the above statement and the relationship is significant as the $\chi 2$ value (39.30) is more than critical value. Hence, it can be concluded that there is significant agreement among the SMEs/ corporates (respondents) that risks arising from Not receiving the Goods – As per Agreed Quality is one of the major concern for SMEs/ corporates (Table 5.6)

5.3.6 Risks arising from Not receiving the Goods – As per Terms of Delivery

The results indicated that 69.32% of respondents agreed to the above statement and the relationship is significant as the $\chi 2$ value (53.28) is more than critical value. Hence, it can be concluded that there is significant agreement among the SMEs/ corporates (respondents) that risks arising from Not receiving the Goods – As per Agreed Terms of Delivery is one of the major concern for SMEs/ corporates (Table 5.6)

5.3.7 Risks arising from Not receiving the Goods – Properly Packed

The results indicated that 66.58% of respondents agreed to the above statement and the relationship is significant as the $\chi 2$ value (48.86) is more than critical value. Hence, it can be concluded that there is significant agreement among the SMEs/ corporates (respondents) that risks arising from Not receiving the Goods – Properly Packaged is one

of the major concern for SMEs/ corporates (Table 5.6)

5.4 Perception on Causes of FCE Risks by Bankers/ Finance Experts

Nine major items were identified and two possible responses namely YES (1) and NO (2) were offered for the questions. $\chi 2$ test was computed to test the significance. The following Hypotheses was formulated and tested.

HO3	There is no significant agreement among the Bankers/ Finance Experts (respondents) in the ranking of different causes of FCE Risks.

The responses are furnished in Table 6.149 and analysis is presented in the following paras..

5.4.1 Volatility in Currency fluctuations

Dong et al., (2014) advise that given the difficulty of predicting the direction of foreign exchange movements, forex market fluctuations tend to have drastic consequences for the financial performance of any entity.

The results indicate that 81.67% of SMEs/ Corporates (respondents) agreed that Volatility in Currency fluctuations is the prime cause of FCE Risks emerging from Business & Economic Activities. The relationship is significant as the $\chi 2$ value (24.07) is more than critical value; and can be concluded that there is significant agreement among the SMEs/ corporates (respondents) that Volatility in Currency fluctuations is the prime cause of FCE Risks emerging from Business & Economic Activities. (Table 5.7).

5.4.2 Volatility in clients' domestic currency

Goldberg et al., (2007) suggest that firms should hold a view on the foreign currencies of countries where they have interests for assessing the future performance of their base currency. This will enable them to manage their FCE by forecasting future cash flow. Assessing volatility in clients' domestic currency will also assist them in selection of

hedging strategies i.e. deploying leading or lagging or going for OTC products / Exchange traded instruments.

The results indicate that 78.33% of respondents agreed that volatility in clients' domestic currency is one of the causes of FCE Risks emerging from Business & Economic Activities. The relationship is significant as the $\chi 2$ value (19.67) is more than critical value and can be concluded that there is significant agreement among the SMEs/ corporates (respondents) that Volatility in clients' domestic currency is one of the causes of FCE Risks emerging from Business & Economic Activities. (Table 5.7).

5.4.3 Change in Attitude of individual overseas customers

Experts opine that the firms actively engaged in international business activities and whose major portion of sales revenue is dominated in foreign currencies, find themselves at risk of being in unfavourable contracts that are detrimental to them, particularly at the time when they face attitudinal changes in their customers' behaviour on one pretext or the other. The results indicate that 53.33% of respondents agreed that change in attitude of individual overseas customers is a reason for FCE Risks emerging from Business & Economic Activities. The relationship is significant as the $\chi 2$ value (11.67) is more than critical value and can be concluded that there is significant agreement among the SMEs/ corporates (respondents) that change in attitude of individual overseas customers is a reason for FCE Risks emerging from Business & Economic Activities (Table 5.7).

5.4.4 Interest rate fluctuations

When currency rates move in one-way direction, corporates leave their foreign exchange exposures unhedged to benefit from the movement of the currency and save the cost of hedging rather than concentrating on their core business to generate profits. In their initiatives, sometimes low and stable interest rates also act as incentives to increase leverage.

Foreign exchange rate is unstable due to uncertainty over the interest rate, flow of capital from the foreign countries, recently problem of government policy and its uncertainty over the taxation of foreign fund flow.

However, when financial markets turn volatile, currency starts depreciating, funding markets starts drying abroad, many of these corporates are left vulnerable.

Adverse interest rate fluctuations impact currency market and price fluctuate, most of the time adversely. In comparison to their counterpart large firms, SMEs and small corporates get affected more with the interest rate fluctuations, whether occurred in fiscal market or made by their lenders/ bankers because of their weaker capital base and tighter budgets than their counterpart larger firms.

The results indicate that 60% of respondents agreed that Interest rate fluctuations is a reason for FCE Risks emerging from Business & Economic Activities. The relationship is significant as the $\chi 2$ value (12.40) is more than critical value and can be concluded that there is significant agreement among the SMEs/ corporates (respondents) that Interest rate fluctuations is a reason for FCE Risks emerging from Business & Economic Activities (Table 5.7).

5.4.5 Unawareness about the problems related with currency exposure

Boroaca et. al (2014) apprise that foreign exchange exposure on business can make or break a firm, since a movement in the forex rate may be the difference between profit or loss for the business. Lamarre et. al (2008) share that most of the firms do not know the extent of their foreign exchange exposure because of their unawareness about the various aspects of nominal and economic currency exposure. Nominal exposure is the difference in the translation of revenue and expense in different currencies, whereas the economic exposure is understanding the effects of currency movement on the firm's performance.

The question was sought to uncover whether SMEs are aware of the risks posed to their businesses by their exposure to foreign exchange. Respondents result indicate that most of the respondent enterprises are, at least partial, ignorant and unfamiliar with various FCE risk management tools and techniques. They do not take the problem with that seriousness as it deserves. 53.33% of respondents agreed that unawareness about the problems related currency exposure is one of the reasons of FCE Risks emerging from Business & Economic Activities. The relationship is significant as the $\chi 2$ value (10.27) is more than critical value and can be concluded that there is significant agreement among the SMEs/ corporates (respondents) that unawareness about the problems related currency exposure is a reason for FCE Risks emerging from Business & Economic Activities (Table 5.7).

5.4.6 Failure in identifying various Types of Exchange Rate Risks

Goel et al., (2011) point out that entitles face exchange rate risks from the time of entering into a contract to the final settlement. Kazaz (2014) mention that in highly volatile markets, even high-performance firms with reasonable profit margin can make a loss on account of exchange rate. Ehrlich et al. (2008) suggest that a 10% fluctuation in the exchange rate can lead to 100% loss of firms' margin. Goldberg et al. (2007) share that if the firms do not exercise oversight and control over their foreign exchange risk management practices, they are likely to suffer substantial losses. So it is important for SMEs to understand forex exposure well. Not only they required to understand forex risk in general, but also to realize how forex fluctuations can impact their business. Experts opine that knowledge about forex risk management is essential for undertaking effective hedging strategies.

The results indicate that 58.33% of respondents agreed that failure in identifying various types of exchange rate risks is one of the causes of FCE Risks emerging from Business & Economic Activities. The relationship is significant as the $\chi 2$ value (11.67) is more than critical value and can be concluded that there is significant agreement among the SMEs/

corporates (respondents) that failure in identifying various types of exchange rate risks is a reason for FCE Risks emerging from Business & Economic Activities (Table 5.7).

5.4.7 Inadequate understanding of various hedging products, especially derivatives products

Experts reveal that lack of familiarity with derivative products deter SMEs/ corporates in managing risk effectively. They think that derivatives are complex to understand. Whereas the fact is that most derivative instruments are constructed from two basic instruments, forwards and options, which does not require any rocket science knowledge to understand. The questionnaire results indicate that 73.67% of respondents agreed that inadequate understanding of various hedging products, especially derivatives product is one of the causes of FCE Risks emerging from Business & Economic Activities. The relationship is significant as the $\chi 2$ value (20.07) is more than critical value can be concluded that there is significant agreement among the SMEs/ corporates (respondents) that inadequate understanding of various hedging products is a reason for FCE Risks emerging from Business & Economic Activities (Table 5.7).

5.4.8 Poor Cash flow position of the firm and ability to withstand currency fluctuations

Goldberg et al., (2007) apprise that frequent fluctuations in currency make it impossible for SMEs/ Corporates to predict their cash flows for meeting various present and future revenue and capital expenditure. The results indicate that 78.33% of respondents agreed that poor cash flow position of the firm and ability to withstand currency fluctuations is one of the causes of FCE Risks emerging from Business & Economic Activities. The relationship is significant as the $\chi 2$ value (19.27) is more than critical value and can be concluded that there is significant agreement among the SMEs/ corporates (respondents) that poor cash flow position of the firm and ability to withstand currency fluctuations is a

reason for FCE Risks emerging from Business & Economic Activities (Table 5.7).

5.4.9 Non availability of proper user friendly hedging products/ mechanism

Kula (2005) shares that the impact of foreign exchange exposure might be viewed by most firms as a short-term problem. The reason is that in the short-term, foreign exchange exposure will impact the firm's liquidity but in long run it will impact firm's sustainability.

The results indicate that 65% of respondents agreed that non-availability of proper user friendly hedging products/ mechanism is one of the causes of FCE Risks emerging from Business & Economic Activities. The relationship is significant as the $\chi 2$ value (15.40) is more than critical value and can be concluded that there is significant agreement among the SMEs/ corporates (respondents) that non-availability of proper user friendly hedging products/ mechanism is a reason for FCE Risks emerging from Business & Economic Activities (Table 5.7).

Table 5-7 Perception of SMEs/ Corporates on Causes of FCE Risks emerging from Business & Economic Activities

Sl. No	Causes	Yes	No	Total	% Yes	% No	Calcu-lated $\chi 2$ value	Criti-cal $\chi 2$ valu e	Remarks
1	Volatility in Currency fluctuations	70	16	86	81.67	18.33	24.07	3.84	Significant
2	Volatility in clients' domestic currency	67	19	86	78.33	21.67	19.27	3.84	Significant
3	Change in Attitude of individual overseas customers	50	36	86	58.33	41.67	11.67	3.84	Significant
4	Interest rate fluctuations	52	34	86	60.00	40.00	12.40	3.84	Significant

5	Unawareness about the problems related with currency exposure	46	40	86	53.33	46.67	10.27	3.84	Significant
6	Failure in identifying various Types of Exchange Rate Risks	50	36	86	58.33	41.67	11.67	3.84	Significant
7	Inadequate understanding of various hedging products, especially derivatives products	64	22	86	73.67	26.33	20.07	3.84	Significant
8	Poor Cash flow position of the firm and ability to withstand currency fluctuations	67	19	86	78.33	21.67	19.27	3.84	Significant
9	Non availability of proper user friendly hedging products/ mechanism	56	30	86	65.00	35.00	15.40	3.84	Significant
Source: Own computation									

5.5 Perception of SMEs/ Corporates on Assessment of FCE Risks-

Goldberg et al. (2007) advise that before firms choose which strategy is the most suitable for them, they need to know, inter-alia, when and why to need assess FCE risks. Depending upon the value of the portfolio vis-à-vis the currency volatility, corporates need to evaluate their foreign currency portfolio on a periodical basis by comparing the hedged rates with the market rates for respective maturities to determine the opportunity gain or loss made by them on the portfolio. Experts put forth the necessity and share that by timely assessment of FCE risks of their portfolio, the companies can evolve a plan for appropriate hedging strategies and enhance hedging efficiencies.

With a view to feel of impact of fluctuations in exchange rates on their profitability, entities compute the effects of currency movements on their exposure, as and when need arises. Empirically entities, analyse their currency exposure at following periodical frequencies:

- Frequently, as and when required, but at least once in a day
- Twice in a day, once in the morning and once in the evening
- Bi weekly
- Weekly
- Fortnightly
- Monthly
- Quarterly
- Half Yearly- risk premium is usually available for six months only

Experts contend that the practice of computation of impact of currency movement on profitability is more among SMEs. During deliberations, respondents and participants shared that it is very common for the entities to make periodical assessment of their currency exposure albeit frequency can differ. Respondents shared that majority of the firms from IT/ Software and Handicrafts categories make weekly assessment of their currency exposure. Similar is the practice in the entities from mining, gems and jewellery sector. Respondents shared that majority of SMEs/ corporates assess the impact of currency fluctuations on their profit margin as and when required.

For seeking response on the issue of Assessment of FCE Risks by the SMEs/ Corporates with respect to timing (when) they like to assess their FCE risks, five items were identified (Table- 5.8).

Table 5-8 Perception of SMEs/ Corporates on causes of Assessment (When) of FCE Risks

Assessment of FCE Risks- When they assess	Mean	Rank
Volatility in Currency fluctuations	5.9667	1
Volatility in Clients' domestic currency	5.0833	2
Change in Attitude of individual overseas customers	4.9333	3
RBI intervention in the Forex Market	3.7667	4
Impact of interest rate fluctuations, measures like QEs, Greece impact, etc. in international markets.	3.2667	5
Source: Own computation		

The mean score is very high in respect of assessment of FCE risks when there is volatility in currency fluctuations and it is fairly high in respect of assessment aspect of volatility in clients' domestic currency. The third and fourth significant factors were Change in Attitude of individual overseas customers and RBI intervention in the Forex Market respectively. Impact of interest rate fluctuations, measures like QEs, Greece impact, etc. in international markets was ranked moderately.

It may be concluded, therefore that, factors specific for currency fluctuations were major causes for assessment (When) FCE risks by SMEs/ Corporates. The Kendall's coefficient of concordance (W) was computed and the results are furnished in Table 6.170. The calculated W was 0.409 indicating a fair degree of agreement among SMEs/ corporates in the ranking of different causes of Assessment (When) of FCE Risks. The following Hypotheses was formulated and tested.

HO4	There is no significant agreement among the SMEs/ Corporates (respondents) in the ranking of different causes for assessment (When) of FCE Risks

Table 5-9 Test Statistics

Kendall's Coefficient of Concordance– Test Statistics	
N	86
Kendall's W	0.409
Chi-Square	147.150
df	6
Asymp. Sig.	.00001
Source: Own computation	

The critical value was calculated through computation of $\chi 2$ distribution values, with confidence of $1 - \alpha$, and $df = n - 1$. Comparing the $p < 0, 0001$ with the significance level $\alpha = 0.05$, the Hypotheses was rejected that there is significant agreement among the SMEs/ Corporates (respondents) in the ranking of different causes for assessment (timing -When) of FCE Risks (Table 5.9)

5.6 Perception of SMEs/ Corporates on Causes for Assessment of FCE Risks-

In addition to knowing the causes of Assessment (When) of FCE Risks which were ranked by the SMEs/ Corporates, an attempt was also made to have the perception of the respondents with regard to the causes of Assessment (Why) of FCE Risks. Eight major items were identified and two possible responses namely YES (1) and NO (2) were offered for the questions. $\chi 2$ test was computed to test the significance. The responses are furnished in (Table 5.10).

HO5	There is no significant agreement among the SMEs/ Corporates (respondents) in the ranking of different causes for assessment (Why) of FCE Risks

5.6.1 Because of the pressure from Bankers

Post currency crisis of 2013, the focus of entities, whether large or small, has significantly

been shifted to the balancing of risk and liquidity at reasonable cost. Disparities in cost of SMEs/ small corporates foreign currency borrowings (i.e. borrowings through Buyers' credit, Suppliers' credit) coupled with challenges of currency fluctuations have placed them in the dilemma of balancing risks and cost of liquidity. With visible lucrative incentives in not hedging their risks from FCE, the SMEs/ corporates have placed their bankers to the adversities of unhedged forex exposures. Whereas their bankers are required to maintain provisions as well as capital against their UFCEs to comply with the regulatory directives from RBI. This incremental provision and extra capital requirements make dent on their bottom lines. So they pressurise their borrowers to assess their foreign currency exposure and initiate suitable steps to mitigate any risk.

Responses were invited to gather as to when SMEs/ corporates assess their currency exposure of FCE Risks and results indicated that 71.67% of respondents agreed that assessment of FCE risks is made by the SMEs when there is pressure from their banks. The relationship among the respondents was found to be significant as the $\chi 2$ value (11.26) is greater than the critical value of 3.84 (Table 5.10).

5.6.2 To avoid surprises

Lamarre & Pergler (2008), argued that most firms are not aware of the extent of their exposure, so fail to put into place a proper strategy to manage the risk. The results indicated that 63.33% of respondents agreed that SMEs/ corporates assess their currency exposure of FCE Risks to avoid surprises in sudden or unexpected fluctuations in currency exposure. The relationship among the respondents was found to be significant as the $\chi 2$ value (4.26) is more than the critical value and it can be concluded that there is significant agreement among the SMEs/ corporates (respondents) that assessment of FCE risks is made to avoid surprises (Table 5.10).

5.6.3 To reduce fluctuations in income/ expenses in foreign currency

Lamarre et al. (2008) suggest that firms can decrease their dependency on one currency by partnering with other firms that have a broader global reach and in this way diversify their income streams to a number of currencies. This safeguards that the volatility of one of the currencies can be offset by another that is performing better and help in reducing fluctuations in income/ expenses in foreign currency. Respondents' result indicated that 65% of respondents agreed that assessment of FCE risks is made by the SMEs/ corporates to reduce fluctuations in income/ expenses in foreign currency. The relationship is significant as the $\chi 2$ value (5.4) is more than the critical value and can be concluded that that there is significant agreement among the SMEs/ corporates (respondents) that assessment of FCE risks is made by the SMEs/ corporates to reduce fluctuations in income/ expenses in foreign currency (Table 5.10).

5.6.4 To exploit interest rate differentials between different currencies

Across the globe, most of the corporates follow the strategy of borrowing (or shorting) a low interest currency and not borrowing (going long) in domestic currency at higher rate of interest. This is termed as "carry trade". Interest differentials alongwith parallel inflation differentials make carry trades or unhedged borrowings attractive and profitable. According to BIS research, in the global currency markets, carry trades are the second most popular trading/speculative strategy, after trend following or momentum trading.

Responses were invited to gather as to when SMEs/ corporates assess their currency exposure of FCE Risks and results indicated that 55% of respondents agreed that assessment of FCE risks is done by the SMEs to exploit interest rate differentials between different currencies. The relationship among the respondents was found to be significant as the $\chi 2$ value (6.10) is greater than the critical value of 3.84 and can be concluded that that there is significant agreement among the SMEs/ corporates (respondents) that

assessment of FCE risks is done by the SMEs to exploit interest rate differentials between different currencies (Table 5.10).

5.6.5 To reduce risk of financial distress thus cost of capital

The results indicated that 76.67% of respondents agreed that assessment of FCE risks is done by the SMEs to reduce risk of financial distress thus cost of capital. The relationship among the respondents was found to be significant as the $\chi 2$ value (17.07) is greater than the critical value of 3.84 and can be concluded that there is significant agreement among the SMEs/ corporates (respondents) that assessment of FCE risks is done by the SMEs to reduce risk of financial distress thus cost of capital. (Table 5.10).

5.6.6 To follow dominant practices in business sector

In response of this statement, 76.67% of respondents agreed that assessment of FCE risks is done by the SMEs to follow dominant practices in business sector. The relationship is significant as the $\chi 2$ value (17.07) is more than critical value and can be concluded that there is significant agreement among the SMEs/ corporates (respondents) that assessment of FCE risks is done by the SMEs to follow dominant practices in business sector (Table 5.10).

5.6.7 To comply with accounting regulations- IFRS/ Ind IFRS

Respondent enterprises opine that earlier, risks were often not quantified and therefore not acted upon. With convergence to International Financial Reporting Standards (IFRS) based forward-looking fair value, full disclosure including value of a position covered by the hedge to the size of the position (hedge ratio) and hedge effectiveness is required. The IFRS regulations relating to reporting Accounting standards/ Regulations, particularly regulations relating to usage of Derivative products are stringent. Besides, 'Other' regulations such as tax regulations, regulations relating to maintenance of foreign

currency account and regulations relating to international trade are also required to be followed meticulously.

In response of this statement, the results indicated that 65% of respondents agreed that assessment of FCE risks is done by the SMEs to comply with accounting regulations- IFRS/ Ind IFRS. The relationship is significant as the $\chi 2$ value (5.4) is greater than the critical value; and can be concluded that there is significant agreement among the SMEs/ corporates (respondents) that assessment of FCE risks is done by the SMEs to comply with accounting regulations- IFRS/ Ind IFRS (Table 5.10).

5.6.8 To calculate likely loss based on currency volatility

In response of this statement, the results indicated that 71.67% of respondents agreed that assessment of FCE risks is done by the SMEs to calculate likely loss based on currency volatility. The relationship is significant as the $\chi 2$ value (11.27) is greater than the critical value and can be concluded that there is significant agreement among the SMEs/ corporates (respondents) that assessment of FCE risks is done by the SMEs to calculate likely loss based on currency volatility (Table 5.10).

Table 5-10 Perception of SMEs/ Corporates on Assessment (Why) of FCE Risks

Sl. No.	Impact	Yes	No	Total	% Yes	% No	Calculated X2 value	Critical X2 value	Remarks
1	Because of the pressure from Bankers	43	17	60	71.67	28.33	11.26	3.84	Significant
2	To avoid surprises	38	22	60	63.33	36.67	4.26	3.84	Significant
3	To reduce fluctuations in	39	21	60	65.00	35.00	5.4	3.84	Significant

	income/ expenses in foreign currency								
4	To exploit interest rate differentials between different currencies	33	27	60	55.00	45.00	6.10	3.84	Significant
5	To reduce risk of financial distress thus cost of capital	46	14	60	76.67	23.33	17.07	3.84	Significant
6	To follow dominant practices in business sector	46	14	60	76.67	23.33	17.07	3.84	Significant
7	To comply with accounting regulations- IFRS/ Ind IFRS	39	21	60	65.00	35.00	5.4	3.84	Significant
8	To calculate likely loss based on currency volatility	43	17	60	71.67	28.33	11.26	3.84	Significant
Source: Own computation									

5.7 Perception on Mitigation Measures for FCE Risks- Why do you NOT Hedge

5.7.1 Preface – Data Analysis

A five-point Likert scale was used as a tool to assess the responses of the SMEs/ corporates on 'Why do you NOT Hedge'. The data was collected and analysed in the following terms:

Percent Agree: The percent of respondents who agreed to the item.

Top-Box scoring: The top box is strongly agree.

Top Two box: The top two box score is the same as the agree score.

Net Top Box: Count the number of respondents that select the top choice (strongly agree) and subtract the number that select the bottom choice (strongly disagree choice).

Z-Score to Percentile Rank: This is a Six-Sigma technique. It converts the raw score into a normal score because rating scale means often follow a normal or close to normal distribution. As a reasonable benchmark is needed to compare the mean, it is considered that 80% of the number of points in a scale is a good place to start (in concurrence with the meta-analysis done by Nielsen & Levy) for a 5 point scale 4 (5*.80=4),

Subtract the benchmark from the mean

Divide the difference by the standard deviation: This is called a z-score (or normal score) and tells us how many standard deviations a score falls above or below the benchmark.

Convert the Z-score to a percentile rank: Using the properties of the normal curve it may be find out as to what per cent of area falls below the standard deviations above the mean.

Coefficient of Variation (COV): The standard deviation is the most common way to express variability but it's hard to interpret especially when it is used a mix of scales points (e.g. Likert scale having 5 points). The COV helps in interpreting by dividing the standard deviation by the mean. Higher values indicate higher variability. It has been observed that responses with similar means but with noticeably different COVs indicate respondents have inconsistent attitudes.

The COV is a measure of variability, unlike the first four (Percent Agree, Top-Box scoring, Top Two box, Net Top Box) which are measures of the central tendency, so it can be used in addition to the other approaches.

The One Sample T-Test was used to determine whether a sample comes from a population with a specific mean. Since the population mean was not known, it was considered appropriate in the backdrop of meta-analysis done by Nielsen & Levy that 80% of the number of points in a scale is a good place to start with. For a five-point scale, 4 (5*.80=4), a reasonable bench mark was considered to compare the mean.

5.8 Perception of SMEs/ Corporates towards the Reasons for Not Adopting Hedging Strategies

Currency risks are inevitable business challenges, however the level of severity differ from entity to entity. Entities engaged in international business activities are directly exposed to exchange rate movements. Their earnings depend primarily on fluctuating exchange rates on the date receipt of their sales proceeds as against the agreed contract price or the date of bill generation.

Fluctuations in the exchange rate not only affects their operating cash flows but also impact systematically, negatively or positively, domestic currency values of their assets and liabilities. Even then SMEs fail to perceive currency exposure risks as an important risk and stand off from hedging their exposure (Allayannis et al. 2001).

Experts contend that often SMEs/ corporates do not have enough resources and organisational structure to manage their foreign exchange fluctuations. At times, they fail to anticipate the exchange rate risk to offset the market loss and face survival problems. Besides, majority of the Indian corporates are increasingly keeping their foreign currency exposure unhedged, deterred by the high cost of hedging and lulled into complacence by the rupee's relative stability in recent months.

However, in this study an attempt has been made to seek opinion of SMEs/ small corporates with regard to their non-adoption of hedging strategies for managing FCE Risks effectively. The following Hypotheses was formulated and tested:

HO6	There is no significant agreement among the SMEs/ Corporates (respondents) in the ranking of different causes for not adopting hedging strategies

The information was collected and analysed, as detailed in (Table 5-11 to Table 5-13) and the results are discussed in the following paras.

5.8.1 Low business volumes

Experts contend that SMEs must actively participate in the foreign exchange market to protect themselves from the volatile foreign exchange rates keeping aside turnover issue.

Percentage agreed and Top Two Box indicates that 9 0.41% agreed that the SMEs/ Corporates avoid adhering to hedging strategies for mitigating their FCE Risks due to low business volume. As per Top Box and Net Top Box, 49.04% agreed that reason for non-adoption of Hedging strategies by SMEs/ Corporates was low business volume. As per Z-Score to Percentile Rank, 64.41% agreed that their low business volume is a reason for non-adoption of hedging techniques. About 8 % of respondents are in disagreement. The COV of 19.76 indicates that the inconsistency among the respondents is up to 19.76%. It is observed that p< .05 (it is p =<0.0001) and significant. Therefore, it can be concluded that the respondents strongly agreed (with a mean score value of 86.30%) that low business volume of the SMEs/ corporates leads to non-adoption of hedging strategies by them (Table 5-11 to Table 5-13).

5.8.2 Availability of natural hedge

Natural hedge is the most widely used internal technique put in place by the respondent enterprises to manage their currency exposure. Natural hedge refers to receivables in the same foreign currency that squares off any dues the company may have towards its obligations. But in case of regular/ daily volatility in the exchange rate, the concept of natural hedge becomes void. Chairman of a public-sector bank puts in-

"When the currency fluctuates wildly, there is not much of a comfort with natural hedge that comes at a future date."

Percentage agreed and Top Two Box indicate that 91.78% agreed that the SMEs/ Corporates do not stuck to hedging strategies because of their availability of natural hedge. As per Top Box and Net Top Box, 59.73% agreed that the availability of natural hedge make them comfortable in non-adopting hedging strategies. As per Z-Score to percentile rank, 66.95% agreed that the availability of natural hedge is one the of reasons for non-adoption of hedging strategies by SMEs/ Corporates. About 8% respondents are in disagreement. The COV of 19.11 indicates that the inconsistency among the respondents is up to 19.11%. It is observed that $p < .05$ (it is $p \leq 0.0001$) and it is significant. Therefore, it can be concluded that the respondents strongly agreed (with a mean score value of 87.67 %) that availability of natural hedge SMEs/ Corporates lead to non-adoption of Hedging strategies by SMEs/ Corporates (Table 5-11 to Table 5-13).

5.8.3 Cost of hedging exceeds the expected benefits

Dolde (1993) states that the small firms are more concerned about cost of risk management and due to cost of risk management, small firms were found completely ignoring the derivative instruments for hedging purpose. Hagelin (2003) shares in his findings that hedging often requires huge fixed costs, which can be a difficulty for smaller firms. Choi (2012), McCarthy (1999) stated in their findings that non-hedging makes smaller firms more vulnerable to foreign exchange than larger firms, as they usually have less risk hedging capacity than their larger counterparts.

Most of the respondents agree that cost exceeding the expected benefits is the most important reason behind non-usage of external foreign currency exposure management tools. Percentage agreed and Top Two Box indicate that 94.52% agreed that the SMEs/ Corporates do not stuck to hedging strategies because cost of hedging exceeds their

expected benefits. As per Top Box and Net Top Box, 58.63% agreed that due to cost of hedging exceeding expected benefits, SMEs/ Corporates do not use hedging strategies. As per Z-Score to percentile rank, 69.48% agreed that the cost of hedging exceeding expected benefits is the reason for SMEs/ Corporates non-adoption of hedging strategies. It is observed that p > .05 (it is p =<0.0001). About 2% of respondents are in disagreement. The COV of 14.85 indicates that the inconsistency among the respondents is up to 14.85%. It is observed that p> .05 (it is p =<0.0001) and it is significant. Therefore, it can be concluded that the respondents almost strongly agreed (with a mean score value of 90.19%) that to cost of hedging exceeding expected benefits lead to non-adoption of Hedging strategies by SMEs/ Corporates (Table 5-11 to Table 5-13).

5.8.4 Unawareness about various internal and external hedging strategies and techniques

Bondar et al. (1995) share in their study that exporting firms need to be aware of the importance of forex exposure. Research findings from various studies reveal that forex exposure matters to exporting firms which are more involved in international markets. Most of the participants interviewed observed that forex rate changes impact firms' performance, especially for large orders. Transaction exposure is the most usual impact of forex fluctuations. As exporting firms attempt to increase their export ratio, transaction exposure becomes an essential concern for the firms. As a result, firms should be on the alert for forex fluctuations. Forex rate changes may bring unexpected profits, but also cause unexpected loss. As forex gains are not what exporting firms expect, it is not worthwhile to take a loss caused by forex uncertainties.

Percentage agreed and Top Two Boxes indicate that 90.68% agreed that SMEs/ Corporates do not adopt hedging strategies because of their unawareness about various internal and external hedging strategies and techniques. As per Top Box and Net Top Box, 51.23% and 50.68% respectively, agreed that the SMEs/ Corporates unawareness about various internal

and external hedging strategies and techniques is one of the reasons for their non-adoption of hedging strategies. As per Z-Score to percentile rank, 66% agreed that SMEs/ Corporates unawareness about various internal and external hedging strategies and techniques is the reason. About 7% of respondents are in disagreement. The COV of 19.34 indicates that the inconsistency among the respondents is up to 19.34%. It is observed that $p > .05$ (it is $p = 0.0001$) and it is significant. Therefore, it can be concluded that the respondents strongly agreed (with a mean score value of 86.96%) that unawareness of SMEs/ Corporates about various internal and external hedging strategies and techniques results in their non-adoption of hedging techniques (Table 5-11 to Table 5-13).

5.8.5 Non-availability of trained staff

Pramborg (2005) point out that a few prominent reasons SMEs/ corporates avoid hedging could be insignificant forex exposure and the cost of setting up a hedging programme. Experts contend that in order to manage effectively forex risk, exporting SMEs need to develop their human resources by initiating suitable steps such as imparting training, developing skills which are essential for forex risk management in their organisations. To this end, firms need to increase managerial concerns to employees' desires for forex training, including encouraging employees and building their skills. It will be beneficial for firms to develop an organizational culture in which employees readily perceive learning benefits associated with forex management, which can help overcome obstacles. Experts opine that practical application of training can increase the success of training programmes and thus SMEs can have skilled hedgers.

Percentage agreed and Top Two Boxes indicate that 75.34% agreed that the issue of non-adoption of hedging strategies by SMEs/ Corporates due to non-availability of trained staff. As per Top Box and Net Top Box, 18.90% and 18.08% respectively agreed that non-availability of trained staff is the reason for non-adoption of hedging strategies by SMEs/ Corporates. As per Z-Score to percentile rank, 22.67% agreed that non-availability of trained

staff is the reason for non-adoption of hedging strategies by SMEs/ Corporates About 2% respondents are in disagreement. The COV of 22.67 indicates that the inconsistency among the respondents is up to 22.67%. It is observed that p >.05 (p =0.00398) and it is significant. Therefore, it can be concluded that the respondents are in agreement that that non-availability of trained staff is the reason for non-adoption of hedging strategies by SMEs/ Corporates (Table 5-11 to Table 5-13).

5.8.6 Absence of Hedging Cost Budget

Not having a hedging cost budget also acts as a detriment for companies to exit unprofitable hedges 17. Percentage agreed and Top Two Boxes indicate that 84.11% agreed that the absence of Hedging Cost Budget is the reason for non-adoption of hedging strategies by SMEs/ Corporates. As per Top Box and Net Top Box, 38.90% and 38.35% respectively agreed that the issue of non-adoption of hedging strategies by SMEs/ Corporates is due to absence of hedging cost budget. As per Z-Score to Percentile Rank, 22.18% agreed that the problem of absence of hedging cost budget leads to non-adoption of hedging strategies by SMEs/ Corporates. About 9% of respondents are in disagreement. The COV of 22.18 indicates that the inconsistency among the respondents is up to 22.18%. It is observed that p >.05 (it is p =0.0001) and it is significant. Therefore, it can be concluded that the respondents are in agreement (with a mean score value of 82.63%) that absence of hedging cost budget leads to non-adoption of hedging strategies by SMEs/ Corporates (Table 5-11 to Table 5-13).

[17] Vikram muraruka , First step to success in hedging: Sanction or Hedging Cost Budget, (http://kshitij.com)

5.8.7 Limited Hedging Products available at OTC

Experts share that keeping in view the intricacies of derivatives products vis-à-vis the available skill level with the SMEs, PSU banks generally suggest only forward contracts to their clients, especially SMEs. They do not encourage other derivative instruments as private banks do.

Percentage agreed and Top Two Boxes indicate that 72.05% agreed that availability of limited hedging products is a reason for non-adoption of hedging strategies by SMEs/ Corporates. As per Top Box and Net Top Box, 17.53% and 16.96% respectively agreed that the Limited Hedging Products availability at OTC is a reason for non-adoption of hedging strategies by SMEs/ Corporates. As per Z-Score to Percentile Rank, 26.04% agreed that Limited Hedging Products availability at OTC leads to non-adoption of hedging strategies by SMEs/ Corporates. About 16% of respondents are in disagreement. The COV of 26.07 indicates that the inconsistency among the respondents is up to 26.07%. It is observed that p >.05 (it is p=0.0001) and it is significant. Therefore, it can be concluded that the respondents are on average in agreement (with a mean score value of 74.35%) that availability of limited hedging products is a reason for non-adoption of hedging strategies by SMEs/ Corporates (Table 5-11 to Table 5-13).

5.8.8 Structured products offered by the Banks

Percentage agreed and Top Two Box indicate that 83.29% agreed that the banks' offering structured / exotic products to SMEs/ Corporates is a reason for non-adoption of hedging strategies. As per Top Box and Net Top Box, 33.70% and 31.23% respectively, respondents agreed that the non-adoption of hedging strategies by SMEs/ Corporates is due to structured products offered by the Banks. As per Z-Score to Percentile Rank, 50.21% agreed that non-adoption of hedging strategies by SMEs/ Corporates is due to structured products offered by the Banks. About 14% of respondents are in disagreement. The COV of 23.91

indicates that the inconsistency among the respondents is up to 23.91%. It is observed that p >.05 (it is p=0.919) and it is not significant. Therefore, it can be concluded that, though the respondents are just in agreement (with a mean score value of 80%) that non-adoption of hedging strategies by SMEs/ Corporates is due to structured products offered by the Banks (Table 5-11 to Table 5-13).

5.8.9 Difficulty in pricing and valuing derivatives

Valuation of derivatives contracts is not an easy task. Experts contend that sometimes SMEs do not undertake hedging as they are not aware of various accounting aspect of derivative hedging. They find themselves constrained as to how and upto what extent they may follow ICAI guidelines on Indian AS 21 for hedge accounting. The important aspects relating to pricing and valuation of hedging products viz MTM of the portfolio, calculation of losses at prescribed time intervals, meticulous adherence with various accounting aspects as per Ind AS 21 etc. are a few of the reasons SMEs avoid hedging.

Percentage agreed and Top Two Boxes indicate that 86.31% agreed that the difficulty in pricing and valuing derivative is a reason for non-adoption of hedging strategies by SMEs/ Corporates. As per Top Box and Net Top Box, 46.58% agreed that the difficulty in pricing and valuing derivative is a reason for non-adoption of hedging strategies by SMEs/ Corporates. As per Z-Score to Percentile Rank, 58.58% agreed that the difficulty in pricing and valuing derivative is a reason. About 12% of respondents are in disagreement. The COV of 22.84 indicates that the inconsistency among the respondents is up to 22.84%. It is observed that p < .05 (it is p =0.0001) and it is significant. Therefore, it can be concluded that the respondents are almost strongly agreed (with a mean score value of 84.16%) that the difficulty in pricing and valuing derivative is a reason for non-adoption of hedging strategies by SMEs/ Corporates (Table 5-11 to Table 5-13).

Table 5-11 Perception of SMEs/ Corporates towards the Reasons for not adopting Hedging Mitigation Measures for FCE Risks

Sr. No.	Particulars	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree	Total
1	Low business volumes	42	36		1	7	86
		(49.04%)	(41.37%)		(1.64%)	(7.95%)	100.00%
2	Availability of natural hedge	51	28		1	7	86
		(59.73%)	(31.05%)		(1.55%)	(7.67%)	100.00%
3	Cost of hedging exceeds the expected benefits	50	31		3	2	86
		(58.63%)	(35.89%)		(3.29%)	(2.19%)	100.00%
4	Unawareness about various internal and external hedging strategies and techniques	44	34	2	3	5	86
		(51.23%)	(39.45%)	(0.55%)	(2.74%)	(6.03%)	100.00%
5	Non-availability of trained staff	16	49	3	12	8	86
		(18.9%)	(56.44%)	(0.82%)	(14.52%)	(9.32%)	100.00%
6	Absence of Hedging Cost Budget	33	39	2	6	8	86
		(38.9%)	(45.21%)	(0.55%)	(6.58%)	(8.77%)	100.00%
7	Limited Hedging Products	20	47	5	10	14	86
		(17.53%)	(54.52%)	(1.37%)	(11.51%)	(15.07%)	100.00%

	available at OTC						
8	Structured products offered by the Banks	29	44	9	3	10	86
		(33.7%)	(49.59%)	(2.47%)	(2.74%)	(11.51%)	100.00%
9	Difficulty in pricing and valuing derivatives	40	34		1	10	86
		(46.58%)	(39.73%)		(1.64%)	(12.05%)	100.00%
Source : Own computation							

Table 5-12 Perception of SMEs/ Corporates towards the Reasons for not adopting Hedging Mitigation Measures for FCE Risks

Sr. No.	Particulars	%age agree	Top Box	Top Two Box	Net Top Box	Z-Score to Percentile Rank	COV
1	Low business volumes	90.41	49.04	90.41	49.04	64.41	19.76
2	Availability of natural hedge	91.78	59.73	91.78	59.73	66.95	19.11
3	Cost of hedging exceeds the expected benefits	94.52	58.63	94.52	58.63	69.48	14.85
4	Unawareness about various internal and external hedging strategies and techniques	90.68	51.23	90.68	50.68	66.00	19.39
5	Non-availability of trained staff	75.34	18.9	75.34	18.08	22.67	22.67
6	Absence of Hedging Cost Budget	84.11	38.9	84.11	38.35	22.18	22.18
7	Limited Hedging Products available at OTC	72.05	17.53	72.05	16.16	26.04	26.07
8	Structured products offered by	83.29	33.7	83.29	31.23	50.21	23.91

	the Banks						
9	Difficulty in pricing and valuing derivatives	86.31	46.58	86.31	46.58	58.58	22.84
Source: Own computation							

Table 5-13 Perception of SMEs/ Corporates towards the Reasons for not adopting Hedging Mitigation Measures for FCE Risks – Statistical Values

Test Value = 4	N	Mean	Std. Deviation	Std. Error Mean	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Low business volumes	86	4.315	0.853	0.048	7.058	85	0	0.315	0.227	0.402
Availability of natural hedge	86	4.438	0.848	0.044	9.874	85	0	0.438	0.351	0.525
Cost of hedging exceeds the expected benefits	86	4.509	0.669	0.035	14.539	85	0	0.509	0.440	0.578
Unawareness about various internal and external hedging strategies and techniques	86	4.347	0.843	0.044	7.883	85	0	0.347	0.261	0.434
Non-availability of trained staff	86	3.832	0.868	0.045	-3.675	85	0	-0.167	-0.256	-0.077
Absence of Hedging Cost Budget	86	4.131	0.916	0.047	2.742	85	0.006	0.131	0.037	0.225
Limited Hedging Products available at OTC	86	3.717	0.969	0.050	-5.563	85	0	-0.282	-0.382	-0.182

Structured products offered by the Banks	86	4.005	1.024	0.053	0.102	85	0.919	0.005	-0.100	0.110
Difficulty in pricing and valuing derivatives	86	4.208	0.961	0.050	4.139	85	0	0.208	0.109	0.307
Source: Own computation										

5.9 Perception of SMEs/ Corporates towards Hedging Techniques

One of the objectives of the study has been exploring the hedging strategies that SMEs/ corporates choose to manage their FCE risks. Another objective of the study was to identify the reasons as to which type of hedging strategies, operational or financial, SMEs/ corporates prefer to deploy for managing their foreign currency exposure risks.

With a view to know the perception of the respondent SMEs/ corporates on hedging strategies, questions were bifurcated between two categories internal hedging strategies (Operational Hedging) and external hedging strategies (Financial Hedging) categories.

Conceptually, Internal Hedging Techniques are based on protecting the prices/ rates at which contracts for buying or selling have been entered with the clients. Adherence to operational hedging techniques or internal hedging techniques help SMEs/ corporates from losing their cash flow as to when rupee appreciates neither they lose, nor do they gain when the rupee depreciates.

Whereas External Hedging Techniques are undertaken through banks/ Ads / Exchanges and considered to be cost effective.

In each category, seven items were identified and two possible responses namely YES (1) and NO (2) for the questions were offered. $\chi 2$test was computed to test the significance.

The following Hypotheses was formulated and tested.

HO7	There is no significant agreement among the respondents SMEs/ corporates in the ranking of awareness/use of Foreign Currency Risk Internal Hedging Techniques / products by SMEs/ corporates.

The responses were gathered and analysed. The results are furnished in Table 6.149 and analysis is detailed in the following paras.

5.10 Perception of SMEs/ Corporates towards Internal Hedging Techniques

5.10.1 Entering into an agreement with the clients for sharing currency risk

The results indicated that 61.64% of respondents agreed that entering into an agreement with the clients for sharing currency risk is good strategy for hedging FCE risks. $\chi 2$ value at 19.53 is more than the critical value and the relationship is significant. So it can be concluded that there is significant agreement among the SMEs/ corporates (respondents) that entering into an agreement with the clients for sharing currency risk as an internal hedging strategy may mitigate FCE risks and as it may lead to their using to hedging strategy (Table 6.149).

5.10.2 Matching foreign currency trade payments/ receipts against receipts/ payments in the same foreign currency

This strategy involves matching foreign sales with foreign purchases. Lamarre et al., (2008) advise that through this strategy firms explore to settle their foreign suppliers' debts from the proceeds of their foreign buyers thus mitigating the burden and risk of purchasing foreign currency for payment at a later stage. However, matching is feasible when there are many import and export transactions. Through matching a sales transaction with one foreign customer and a purchase transaction with another (but both parties operate with

the same foreign currency) can be efficiently dealt with by opening a foreign currency bank account.

This strategy of matching foreign currency trade payments/ receipts against receipts/ payments in the same foreign currency is supported by 61.64% of respondents as a feasible and practical option for mitigating FCE risks. The relationship is significant as the $\chi 2$ value (20.45) is more than critical value. Hence it can be concluded that there is significant agreement among the SMEs/ corporates (respondents) that matching foreign currency trade payments/ receipts against receipts/ payments in the same foreign currency is a practical internal hedging strategy for risk mitigation (Table 6.99).

5.10.3 Multi-currency billing systems and price adjustment

Yang (1997) advise three price mechanisms that firms can use when they have foreign exchange exposure, namely "pass-through", "partial pass-through" and "no pass-through". Pass-through is explained as the passing of currency movements to the firm's customers through its price. No pass-through implies that the firm opts to absorb the exchange rate fluctuations, while partial pass-through is somewhere in between both strategies (Yang, 1997). Lamarre et al., (2008) advise that multicurrency billing systems and pricing adjustment mechanisms are the easiest and most evident foreign currency exchange management strategy and work well if other competitors in the market are impacted by the movements in the currency market.

Results indicated that 80.82% of respondents agreed that multi-currency billing systems and price adjustment is doable strategy. The relationship is significant as the $\chi 2$ value (35.27) is more than critical value. So it can be concluded that there is significant agreement among the SMEs/ corporates (respondents) that multi-currency billing systems and price adjustment is doable strategy as an internal hedging strategy to mitigate FCE risks (Table 6.149).

5.10.4 Invoicing exports/ imports through hard currency like USD or Euro etc.

Lamarre et al (2008) opine that volatility of one of the currencies can be offset by another that is performing better. Respondents' results indicated that 67.12% of SMEs/ Corporates respondents agreed that invoicing exports/ imports through hard currency like USD or Euro etc. is good internal hedging strategy. The relationship is significant as the χ2value (41.93) is more than critical value and hence it can be concluded that there is significant agreement among the SMEs/ corporates (respondents) that invoicing exports through hard currency like USD or Euro etc. or multi- currency billing is a practical internal hedging strategy for risk mitigation (Table 6.149).

5.10.5 Negotiating imports pricing in domestic currency (INR)

Responses indicated that 52.05% of respondents agreed that negotiating imports pricing in domestic currency (INR) is a practical internal hedging strategy. But the relationship is not significant as the χ2 value (0.87) is less than the critical value. Hence it can be concluded that there is significant agreement among the SMEs/ corporates (respondents) that negotiating imports pricing in domestic currency (INR) may be a good option for risk mitigation but not feasible internal hedging strategy for risk mitigation (Table 6.149).

5.10.6 Leading and lagging- Inter-entity netting of receipts and payments

Leading is exchanging currency in domestic or foreign in advance well before a payment is to be effected. Lagging is delaying the transaction. Lagging does not reduce risk because the costs are not known.

Lagging does not reduce risk because the costs are not known 18.

SMEs/ Corporates were asked to respond to this statement and the results indicated that 80.27% of them agreed that leading and lagging through inter-entity netting of receipts and payments is good strategy for hedging FCE risks. The relationship is significant as the χ2value (30.51) is more than critical value. Hence it can be concluded that there is significant agreement among the SMEs/ corporates (respondents) that leading and lagging through inter-entity netting of receipts and payments is good strategy for hedging FCE risks (Table 6.149).

5.10.7 Leading and lagging- Netting through cross hedging, using cash flows in different currencies to offset each other

Netting is effective when there are many sales and purchases in the foreign currency. It would not be feasible if the transactions are separated by many months. Bilateral netting is where two companies in the same group cooperate as explained above; multilateral netting is where many companies in the group liaise with the group's treasury department to achieve netting where possible19.

The results indicated that 78.36% of respondents agreed that netting of FCE through cross hedging, using cash flows in different currencies to offset each other (Leading and lagging) is a practical and approachable internal hedging strategy for mitigating FCE risks. The relationship is significant as the χ2value (14.53) is more than critical value. Hence it can be

[18] Foreign Currency Risk and Its Management, http://www.accaglobal.com/in/en/student/sa.html
[19] An Investigation of Foreign Exchange Risk Management by Exporting Small and Medium Sized Enterprises 2015

concluded that there is significant agreement among the SMEs/ corporates (respondents) that netting of FCE through cross hedging, using cash flows in different currencies to offset each other payments is good strategy for hedging FCE risks (Table 5.14).

Table 5-14 Perception of SMEs/ Corporates towards Internal Hedging Techniques

Sl. No	Causes	Yes	No	Total	% Yes	% No	Calculated X2 value	Critical X2 value	Remarks
1	Entering into an agreement with the clients for sharing currency risk	53	33	86	61.64	38.36	19.53	3.84	Significant
2	Matching foreign currency trade payments/ receipts against receipts/ payments in the same foreign currency	53	33	86	61.92	38.08	20.45	3.84	Significant
3	Multi-currency billing systems and price adjustment	70	16	86	80.82	19.18	35.27	3.84	Significant
4	Invoicing exports/ imports through hard currency like USD or Euro etc.	58	28	86	67.12	32.88	41.93	3.84	Significant
5	Negotiating imports pricing in domestic currency(INR)	41	45	86	52.05	47.95	0.87	3.84	Not Significant
6	Leading and lagging- Inter-entity netting of receipts and payments	69	17	86	80.27	19.73	30.51	3.84	Significant
7	Leading and lagging- Netting	67	19	86	78.36	21.64	14.53	3.84	Significant

	through cross hedging, using cash flows in different currencies to offset each other								
Source: Own computation									

5.11 Perception of SMEs/ Corporates towards External Hedging Techniques

Financial hedging to manage forex risk is seen as the most effective strategy for mitigating foreign exchange risk exposure as it is easy and cheap. However, Lamarre et al. (2008) contend that this strategy should be used for the short term only because if it is used for a longer period it can lock the firm into an unfavourable contract Lamarre et al. (2008).

Apart from seeking opinions on internal hedging strategies/ techniques for mitigating FCE Risks, an attempt was also made to know the perception of the SMEs/ corporates with regard to their awareness, practicability, use and assessment of various external (financial) hedging strategies/ techniques. There were two possible responses namely YES (1) and NO (2) for the questions and $\chi 2$ test was computed to test the significance. The following Hypotheses was formulated and tested.

HO8	There is no significant agreement among the respondents SMEs/ corporates in the ranking of awareness/use of Foreign Currency Risk External Hedging Techniques / products by SMEs/ corporates.

Responses are furnished in Table 5.15 and analysis is detailed in the following paras.

5.11.1 Forward Contract

Forward contracts are the most common hedging strategy and have an advantage of having a fixed rate and date of payment. However, Ehrlich et al. (2008), Goldberg et al. (2007) contend that it does have its pitfalls. Forward contracts require vast deposits and can be rendered ineffective if there is a mismatch between the maturity date and the payment date. Secondly if the firm defaults in honouring its commitments, it may have to pay hefty penalties. Contrary to it, Ehrlich et al. (2008) and McCarthy (1999) argue that in the long run volatility of forward rate is similar to that of spot rates, and no benefit can be gained from using the either.

Nonetheless, the most prominent tool that has been used widely among Indian corporates for hedging is the forward contracts. 98.84% of the respondents also agreed that forward contract is the most common external hedging strategy/ techniques for mitigating FCE Risks. The relationship is significant as the χ2value (27.47) is more than critical value and it can be concluded that there is significant agreement among the SMEs/ corporates (respondents) that entering into forward contract is good strategy/ technique for hedging of FCE risks (Table 5.15).

5.11.2 Options

61.92% of respondents agreed that options is a good and practical strategy for FCE risks mitigation. The relationship is significant as the χ2 value (20.45) is more than critical value; and it can be concluded that there is significant agreement among the SMEs/ corporates (respondents) that undertaking options for hedging of FCE risks is a good external hedging strategy/ technique (Table 5.15).

5.11.3 Covered Options

The results indicated that only 10.96% of respondents agreed and 89.04% of respondents

disagreed that covered options is a good and practical strategy for FCE risks mitigation. The relationship is insignificant as the $\chi 2$ value (0.87) is less than critical value and it can be concluded that there is significant agreement among the SMEs/ corporates (respondents) that undertaking covered options for hedging of FCE risks is not a good external hedging strategy/ technique (Table 5.15).

5.11.4 Futures

Future contracts, or currency futures as they are called, are similar to forward contracts as they also offer to purchase or sale of foreign currency at a future date. The difference between the two is the standardisation of future contracts for a fixed amount and time, usually at the end of a quarter, and they are usually used to purchase smaller amounts of currency (Ehrlich et al.2008).

The advantage of future contracts is that they are liquid, can be acquired easily at low transaction costs and their contracts are not ambiguous. However, the disadvantage with them is that they lack flexibility and the premium paid might be higher than the benefits derived may also contain losses and gains on daily basis (Ehrlich et al., 2008).

The questionnaires results indicated that 64.11% of respondents agreed that long and short of futures is a practical and good external hedging strategy/ technique for hedging of FCE risks and the relationship is significant as the $\chi 2$ value (28.56) is more than the critical value and it can be concluded that there is significant agreement among the SMEs/ corporates (respondents) that buying and selling of futures is a practical and good external hedging strategy/ technique for hedging of FCE risks (Table 5.15).

5.11.5 Swaps/ Interest Rate Swaps (IRSs), Forward Rate Agreements (FRAs)

Questionnaires results indicated that only 41.64 % of respondents agreed that Swaps/ Interest Rate Swaps (IRSs), Forward Rate Agreements (FRAs) are good external hedging

strategies FCE risks management. Whereas, 58.36% of the respondents disagreed, sharing that these products are not very common in the market and hence are not easily available for mitigating FCE risks. However, questionnaires' responses reveal that the relationship is significant as the $\chi 2$ value (10.19) is more than critical value and it can be concluded that there is significant agreement among the SMEs/ corporates (respondents) that Swaps/ Interest Rate Swaps (IRSs), Forward Rate Agreements (FRAs) is a known external hedging strategy/ technique for hedging of FCE risks. (Table 5.15).

5.11.6 Structured Products

Questionnaires results indicated that 58.36 % of respondents disagreed that buying structured products from ADs or banks is a good external hedging strategy/ technique for hedging of FCE risks. Contrary to it, 41.64% of the respondents concurred for structured products. The relationship is significant as the $\chi 2$ value (10.19) is more than critical value and it can be concluded that there is significant agreement among the SMEs/ corporates (respondents) that Structured Products is a known external hedging strategy/ technique for hedging of FCE risks. (Table 5.15).

5.11.7 Zero Cost Structure

Even though Options are sometimes more effective than Forwards for hedging, most companies tend to avoid using Options as a hedging tool, primarily on account of no budget available for paying the upfront option premium. That is also the reason why many companies who incline for Options are attracted towards "zero cost options" and end up losing money in times of excessive volatility. Zero Cost Structures is viewed in India as simultaneously buying and selling of options. As a general rule, writing options cannot be viewed as hedges at all. Writing option creates a risk – it cannot hedge any risk. As per globally prevalent accounting standards written options do not qualify as hedges. The written options may led to huge losses.

Questionnaires results indicated that 58.36 % of respondents disagreed that entering zero cost structures through ADs or banks is a good external hedging strategy/ technique for hedging of FCE risks. Contrary to it, 41.64% of the respondents concurred for zero cost structure products. The relationship is significant as the $\chi 2$ value (10.19) is more than critical value and it can be concluded that there is significant agreement among the SMEs/ corporates (respondents) that Zero Cost Structure is a known external hedging strategy/ technique for hedging of FCE risks. (Table 5.15).

Table 5-15 Perception of SMEs/ Corporates towards External Hedging Techniques

Sl. No	Causes	Yes	No	Total	% Yes	% No	Calculated X2 value	Critical X2 value	Remarks
1	Forward Contract	85	1	86	98.84	1.16	27.47	3.84	Significant
2	Options	53	33	86	61.92	38.08	20.45	3.84	Significant
3	Covered Options	9	77	86	10.96	89.04	0.87	3.84	Not Significant
4	Futures	55	31	86	64.11	35.89	28.56	3.84	Significant
5	Swaps/ Interest Rate Swaps (IRSs), Forward Rate Agreements (FRAs)	36	50	86	41.64	58.36	10.19	3.84	Significant
6	Structured Products	36	50	86	41.64	58.36	10.19	3.84	Significant
7	Zero Cost Structure	36	50	86	41.64	58.36	10.19	3.84	Significant
Source: Own computation									

5.12 Perception of SMEs/ Corporates on Suggestions for improving management of Risks from Foreign Currency Exposure of SMEs/ Corporates

Before designing the questionnaires, many observations cum suggestions were noticed during making deliberations with the participants from the SMEs/ corporates, bankers, CAs etc. These were included in the questionnaires for seeking opinion of the participants from targeted group of sample population.

We collected responses from SMEs/ corporates on eight different suggestions that need to be adopted by various concerned bodies over time in order to minimize the FCE risks of SMEs/ corporates.

The findings of these suggestions are furnished in Table 6.159 to Table 6. and analysis is presented hereby in the following paras:

Table 5-16 Perception of SMEs/ Corporates on Suggestions for improving FCE Risks

Suggestions	Mean	Rank
Making hedging instruments cheaper and user friendly	3.7479	1
Decisions for hedging should be quick and based on proper strategy	3.660	2
Easy availability of Exchange Traded Products	3.611	3
Providing tax based, non -tax based incentives to export oriented SMEs, particularly in case of appreciation in INR	3.5452	4
Outsourcing professional and advisory services to take care of their foreign currency risk management	3.3973	5
Structured/ complex derivatives products should be avoided	3.3425	6
Policy document on foreign currency risk management.	3.298	7
Pass pricing fluctuations on to customers by entering price variance clauses	3.1786	8
Own computation		

As may be seen from the Table- 5.16 that the mean score is highest in respect of foremost factor Making hedging instruments cheaper and user friendly. The second and third significant factors were Decisions for hedging should be quick and based on proper strategy and Easy availability of Exchange Traded Products respectively. It may be concluded, therefore that, factors specific to the Perception of SMEs/ Corporates on Suggestions for improving management of Risks from Foreign Currency Exposure of SMEs/ Corporates were Making hedging instruments cheaper and user friendly.

Table 5-17 Test Statistics

Kendall's Coefficient of Concordance– Test Statistics	
N	86
Kendall's W	0.421
Chi-Square	169.298
df	8
Asymp. Sig.	.00001
Source: Own computation	

The Kendall's coefficient of concordance (W) was computed and the results are furnished in Table 5.17 The calculated W was 0.421 indicating a fair degree of agreement among SMEs/ Corporates in the ranking of suggestions for improving management of Risks from Foreign Currency Exposure of SMEs/ Corporates. The following Hypotheses was formulated and tested with one way Anova analysis.

H9	There is no significant agreement among the SMEs/ Corporates (respondents) in the ranking of suggestions for improving management of Risks from Foreign Currency Exposure of SMEs/ Corporates

We found out the critical value through computation of $\chi 2$ distribution values, with confidence of $1 - \alpha$, and $df = n - 1$. Comparing the $p < 0.0001$ with the significance level $\alpha = 0.05$, the null Hypotheses was rejected that there is significant agreement among the SMEs/ Corporates (respondents) in the ranking of suggestions for improving management of Risks from Foreign Currency Exposure of SMEs/ Corporates. (Table 5.17).

5.12.1 Government should provide tax, non -tax based incentives to export oriented SMEs, particularly in case of appreciation in INR

Empirical results from the study demonstrate that exporting SMEs are seen to lack resources in general, governmental support in terms of less tax, non -tax based incentives particularly in case of appreciation in INR forex risk management is essential for export-oriented SMEs. As indicated, 50.96% of the respondents agreed that Government should provide tax, non -tax based incentives to export oriented SMEs, particularly in case of appreciation in INR. About 41.37 % offered no opinion on the issue whereas around 8% disagreed with the suggestion.

5.12.2 Government should make hedging instruments cheaper and user friendly

As indicated, 66.57% of the respondents agreed that Government should make hedging instruments cheaper and user friendly. About 27.12 % offered no opinion on the issue whereas around 6% disagreed with the suggestion.

5.12.3 Easy availability of Exchange Traded Products

As indicated, 59.18% of the respondents agreed that Easy availability of Exchange Traded Products should be made available for SMEs/ corporates managing their FCE risks smoothly. About 30.41 % offered no opinion on the issue whereas around 10% disagreed with the suggestion.

5.12.4 Decisions for hedging should be quick and based on proper strategy

Experts share that in SMEs/ small corporates tagged as SMEs forex management decisions remain concentrated with the top brass not by the middle and operational level staff. The relevant operating staff who handle day to day banking and other financial operations usually neither have the authority nor incentives for taking extra mile in reducing currency risk. As indicated, 61.64% of the respondents agreed that SMEs/ corporates' decisions for hedging should be quick and based on proper strategy for managing their FCE risks smoothly. About 32.05 % offered no opinion on the issue whereas around 6% disagreed with the suggestion.

5.12.5 Structured/ complex derivatives products should be avoided

As indicated, 41.29% of the respondents agreed that Structured/ complex derivatives products should be avoided. About 38.08 % offered no opinion on the issue whereas around 19% disagreed with the suggestion.

5.12.6 SMEs should outsource professional and advisory services to take care of their foreign currency risk management

As indicated, 46.58% of the respondents agreed that SMEs should outsource professional and advisory services to take care of their foreign currency risk management. About 41.64% offered no opinion on the issue whereas around 12% disagreed with the suggestion. A few experts suggest that instead of getting dependent on outside knowledge and skills, SMEs should develop their own acumen to monitor and forecast exchange rates rather than getting dependent on outside professionals. This will help them in long run.

5.12.7 SMEs should prepare and adhere to a policy document on foreign currency risk management.

The first step in implementing procedural best practices is to formulate a policy, inter-alia for management of Forex Exposure. Experts opine that entities must self-regulate themselves and should maintain a written foreign exchange risk management policy document, which clearly enunciates the policy of the company in dealing with the foreign exchange risk and foreign exchange related transactions. Preparing and placing on record to a policy document (manual) on foreign currency risk management, which should be adhered to by the concerned executive/ operatives. Expert opine that Small and medium-sized entities with limited risk management activities that use financial instruments, may not have a formal written document outlining their overall risk management strategy in place. Those entities do not have the benefit of being able to incorporate the risk management strategy in their hedge documentation by reference to a formal policy document but instead have to include a description of their risk management strategy directly in their hedge documentation. Also, there are disclosure requirements for the risk management strategy that apply irrespectively of whether an entity uses a formal written policy document as part of its risk management activities. However, Goel et al., (2011) and (Maniar, 2016) state that most firms might have a policy in place for the management of foreign exchange risk, but the problem with policies, according to these authors, is that one needs to find a balance between uncertainty and loss of opportunity (Goel et al., 2011).

As indicated, 31.91% of the respondents agreed that SMEs should prepare and adhere to a policy document on foreign currency risk management. About 40.82 % offered no opinion on the issue whereas around 17% disagreed with the suggestion.

5.12.8 SME should try to pass pricing fluctuations on to customers by entering price variance clauses

As indicated, 33.60% of the respondents agreed that SME should try to pass pricing fluctuations on to customers by entering price variance clauses. About 51.51 % offered no opinion on the issue whereas around 13% disagreed with the suggestion.

Table 5-18 Perception of SMEs/ Corporates on Suggestions for FCE Risks Management

Sr. No	Particulars	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree	Total
1	Government should provide tax, non -tax based incentives to export oriented SMEs, particularly in case of appreciation in INR	11	33	36	5	1	86
		12.88%	38.08%	41.37%	6.03%	1.64%	100.00%
2	Government should make hedging instruments cheaper and user friendly	13	44	23	5	1	86
		15.34%	51.23%	27.12%	5.48%	0.82%	100.00%
3	Easy availability of Exchange Traded Products	12	39	26	8	1	86
		13.97%	45.21%	30.41%	8.77%	1.64%	100.00%
4	Decisions for hedging should be quick and based on	10	43	28	5	0	86
		11.23%	50.41%	32.05%	5.75%	0.55%	100.00%

	proper strategy						
5	Structured/ complex derivatives products should be avoided	11	26	33	13	3	86
		12.88%	30.41%	38.08%	15.34%	3.29%	100.00%
6	SMEs should outsource professional and advisory services to take care of their foreign currency risk management	6	34	36	9	1	86
		6.58%	40.00%	41.64%	10.14%	1.64%	100.00%
7	SMEs should prepare and adhere to a policy document on foreign currency risk management.	5	31	35	14	1	86
		5.75%	36.16%	40.82%	16.71%	0.55%	100.00%
8	SME should try to pass pricing fluctuations on to customers by entering price variance clauses	1	28	44	11	2	86
		1.37%	32.33%	51.51%	12.33%	2.47%	100.00%

Table 5-19 Perception of SMEs/ Corporates on Suggestions for FCE Risks Management

Particulars	N	Mean	Std. Deviation	Std. Error Mean	T test	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Government should provide tax, non -tax based incentives to export oriented SMEs, particularly in case of appreciation in INR	86	3.5452	0.85	0.0446	-10.19	85	0.0001	-0.5	-0.54	-0.367
Government should make hedging instruments cheaper and user friendly	86	3.7479	0.81	0.0424	-5.945	85	0.0001	-0.3	-0.34	-0.169
Easy availability of Exchange Traded Products	86	3.611	0.89	0.0466	-8.345	85	0.0001	-0.4	-0.48	-0.297
Decisions for hedging should be quick and based on proper strategy	86	3.6603	0.77	0.0405	-8.389	85	0.0001	-0.3	-0.42	-0.26
Structured/ complex derivatives products should be avoided	86	3.3425	0.99	0.0521	-12.63	85	0.0001	-0.7	-0.76	-0.555
SMEs should outsource professional and advisory services to take care of their foreign currency risk management	86	3.3973	0.82	0.043	-14.03	85	0.0001	-0.6	-0.69	-0.518
SMEs should prepare and adhere to a policy document on foreign currency risk management.	86	3.2986	0.83	0.0436	-16.09	85	0.0001	-0.7	-0.79	-0.616
SME should try to pass pricing fluctuations on to customers by entering price variance clauses	86	3.1786	0.76	0.0396	-20.73	85	0.0001	-0.8	-0.9	-0.744

5.13 Section-2 - Perception of Bankers/ Financial Experts on causes for Risks from FCE, their impact and suggestions etc.

5.13.1 Respondents' Bankers and FEs Perception on FCE Risks

Foreign Currency Exposure of SMEs/ corporates affect not only themselves but impact their finance management people also, especially their banks. Their banks and the institutions/ persons looking after their finance and accounts get affected directly or indirectly with the impact of their FCE Risks. Accordingly, it was thought fit to obtain opinions from these two category of professionals also on FCE Risks of SMEs/ small corporates, especially their clients or clients alike.

In all one hundred questionnaires were administered to bankers / finance experts. Out of which 84 responded and 60 questionnaires were found eligible for data analysis. Ten Interviews with the bankers / finance experts was also conducted to have first-hand idea about various issues. Table 5.20 depicts a summary of the questionnaires administered to each category of respondents and the response rate.

Table 5-20 Questionnaire Success Rate- Bankers/ Finance Experts

Questionnaire Success Rate- Bankers/ Finance Experts					
Particulars	Target respondents	Responded	Incomplete	Successful	Success rate(%)
Questionnaires	100	84	24	60	60%
Interviews	10	10	0	10	100%
Source: Own computation					

5.13.2 Respondents' Profile

Out of the universe of SCBs, bank officials from PSBs and PvtSBs and having exposure or presently working in the area of branch operations, credit management, forex & treasury management, training system, performance management, etc. were selected for the purpose. Whereas, the Financial Experts were selected from the league of professionals like Chartered Accountants, MBAs, forex treasury dealers from banks and industry, finance

controllers and other finance executives/ accountants, working with the related entities/ firms or entities in the forex area. The professionals from finance industry were having either professional qualifications viz chartered accountant, MBAs, Diploma in Treasury and risk management and/ or having hands on experience in working in the area of forex for their respective organisations like accountants, or other middle management level staff looking after day to day banking and other financial operations for their organisations. Table 6.137 shows a summary of the questionnaires administered to each category of respondents and the response rate.

5.13.3 Respondents Bankers/ Finance Experts Bifurcation

Bifurcation of respondents (SME/ Corporates) is detailed hereunder:

Table 5-21 Respondents SME/ Corporates Bifurcation

Area	Target respondents	Responded	Incomplete	Successful	Success rate(%)
Branch Operations	25	22	5	17	68.00%
Credit Management	25	22	6	16	64.00%
Forex & Treasury Management	10	5	2	3	30.00%
Professionals with qualifications viz CAs, MBAs etc.	20	17	5	12	60.00%
Professionals with Experience viz Finance Controller/ Accountants etc.	20	18	6	12	60.00%
	100	84	24	60	60.00%

All the respondents were directly or indirectly involved in the credit and/or forex stream of banking operations, ensuring that all of them possess adequate knowledge of various facets of FCE Risks of SMEs/ corporates and their impact on financial system of the country, especially Banks.

5.13.4 Experience-wise Distribution of Bankers/ Financial Experts

Assessment of FCE Risks requires a little bit extra knowledge and experience about the international business and banking foreign exchange transactions. Hence it was thought fit that respondents in the questionnaires well-versed with the concept, process and mechanism of risks arising from foreign currency transactions. Accordingly, the experience wise details of Bankers/ FEs participated in the survey are furnished in Table 5.22.

Table 5-22 Experience wise Distribution of Bankers/ Finance Experts

Experience in the years	Frequency	%age
Upto 10 years	15	25.00%
Above 10 years and upto 20 years	27	45.00%
Above 20 years	18	30.00%
Total	60	100.00%
Source: Own computation		

Majority of the respondents were having experience of above 10 years and upto 20 years i (45%) whereas the respondents with above 20 years of experience and upto 10 years of experience accounted for about 30% and 25% respectively (Table 5.22).

5.13.5 Perception of Bankers/ Finance Experts on Causes of FCE Risks

The ranks and mean scores in respect of causes identified for FCE Risks by Bankers/ Finance Experts on the basis of importance attributed are furnished in Table 6.164. According to the respondents, the first two ranked factors that contributed to FCE Risks were 'Volatility

in currency fluctuations' and 'Failure in identifying various Types of Exchange Rate Risks' respectively. Whereas the other significant factors ranked by the Bankers/ FEs were 'Poor cash flow position of the firm and its inability to withstand currency fluctuations' and 'Inadequate understanding of various hedging products by SMEs/ corporates, especially derivatives products'. "Unawareness about the problems related with currency exposure' and 'Non-availability of proper user friendly hedging products/ mechanism' were also identified by the SMEs/ corporates (respondents) as significant factor for causes of FCE Risks of SMEs/ Corporates.

Table 5-23 Perception of Bankers/ Finance Experts on Causes of FCE Risks

Causes of FCE Risks	Mean	Rank
Volatility in currency fluctuations	7.0167	1
Failure in identifying various Types of Exchange Rate Risks	6.9667	2
Poor cash flow position of the firm and ability to withstand currency fluctuations	5.9833	3
Inadequate understanding of various hedging products, especially derivatives products	5.5333	4
Unawareness about the problems related with currency exposure	5.5333	5
Non availability of proper user friendly hedging products/ mechanism	3.6500	6
Interest rate fluctuations	3.6333	7
Volatility in clients' domestic currency	3.3667	8
Change in Attitude of individual overseas customers	3.3167	9
Source: Own computation		

The Kendall's coefficient of concordance (W) was computed and the results are furnished in Table 6.165. The calculated W was 0.311 indicating a fair degree of agreement among Bankers/ Finance Experts in the ranking of different causes of FCE Risks.

Table 5-24 Test Statistics

Kendall's Coefficient of Concordance– Test Statistics	
N	60
Kendall's W	0.311
Chi-Square	149.298
df	8
Asymp. Sig.	.00001
Source: Own computation	

The following Hypotheses was formulated and tested.

HO1	There is no significant agreement among the Bankers/ Finance Experts (respondents) in the ranking of different causes of FCE Risks.

We found out the critical value through computation of $\chi 2$ distribution values, with confidence of $1 - \alpha$, and $df = n - 1$. Comparing the $p < 0.0001$ with the significance level $\alpha = 0.05$, the null Hypotheses was rejected implying that there is significant agreement among the respondents Bankers/ Finance Experts in the ranking of different causes of FCE Risks. (Table 5.24).

5.13.6 Causes of FCE Risks as Per Length of Experience of Bankers/ Finance Experts

Table 5-25 Causes for FCE Risks as Per Length of Experience of Bankers/ Finance Experts

Causes for FCE Risks as Per Length of Experience of Bankers/ Finance Experts								
Causes for FCE Risks	Overall		Upto 10 Years		Above 10 & Upto 20 Yrs		Above 20 Years	
	Mean	Rank	Mean	Rank	Mean	Rank	Mean	Rank
Volatility in currency fluctuations	7.016	1	6.400	3	7.000	1	7.555	2
Failure in identifying various Types of Exchange Rate Risks	6.966	2	6.666	1	6.666	2	7.666	1
Poor cash flow position of the firm and ability to withstand currency fluctuations	5.983	3	5.400	4	6.148	3	6.222	4
Inadequate understanding of various hedging products, especially derivatives products	5.533	4	4.600	5	5.518	5	6.333	3
Unawareness about the problems related with currency exposure	5.533	5	6.533	2	5.629	4	4.555	5
Non availability of proper user friendly hedging products/ mechanism	3.650	6	3.733	8	4.259	6	2.666	9
Interest rate fluctuations	3.633	7	4.466	6	3.518	7	3.111	8
Volatility in clients' domestic currency	3.366	8	3.400	9	3.222	8	3.555	6
Change in Attitude of individual overseas customers	3.316	9	3.800	7	3.037	9	3.333	7
Source: Own computation								

Bankers/ FEs with less than 10 years and more than 30 years' experience ranked 'Failure in identifying various types of exchange rate risks' as a major cause of FCE Risks, whereas Bankers/ FEs with more than 10 years and up to 20 years' experience found 'Volatility in currency fluctuations' and 'Failure in identifying various types of exchange rate risks' as major factors causing FCE Risks. 'Poor Cash flow position of the firm and its ability to withstand currency fluctuations' and 'Inadequate understanding of various hedging products, especially derivatives products' were rated as other main reasons. Respondents irrespective of experience found unawareness about the problems related with currency exposure, non-availability of proper user-friendly hedging products/ mechanism, interest rate fluctuations, volatility in clients' domestic currency and change in attitude of individual overseas customers as less important causes of FCE Risks. The following Hypotheses was tested with one-way Anova analysis.

HO2	There is no significant agreement among the Bankers/ Finance Experts (respondents) in the ranking of different causes of FCE Risks as Per Length of Experience of Bankers/ Finance Experts

Table 5-26 Perception on causes for FCE Risks by Bankers/ FEs Anova

Perception on Causes for FCE Risks by Bankers/ FEs Anova							
Causes		Sum of Squares	df	Mean Square	F	Sig.	Remarks
Volatility in currency fluctuations	Between Groups	1.222	2	0.611	0.126	0.882	Significant
	Within Groups	276.711	57	4.855			
	Total	277.933	59				
identification of exchange rate risks	Between Groups	24.593	2	12.296	3.761	0.029	Not Significant

	Within Groups	186.341	57	3.269			
	Total	210.933	59				
Poor cash flow and inability to withstand currency fluctuations	Between Groups	10.939	2	5.469	1.218	0.304	Significant
	Within Groups	256.044	57	4.492			
	Total	266.983	59				
Inadequate understanding of various hedging products	Between Groups	12.6	2	6.3	2.254	0.114	Significant
	Within Groups	159.333	57	2.795			
	Total	171.933	59				
Unawareness about problems related with currency exposure	Between Groups	32.459	2	16.23	3.37	0.041	Not Significant
	Within Groups	274.474	57	4.815			
	Total	306.933	59				
Non availability of user friendly hedging products	Between Groups	6.865	2	3.432	0.475	0.624	Significant
	Within Groups	412.119	57	7.23			
	Total	418.983	59				
Interest rate fluctuations	Between Groups	5.62	2	2.81	0.717	0.493	Significant
	Within Groups	223.363	57	3.919			
	Total	228.983	59				
Volatility in clients'	Between	15.681	2	7.841	1.731	0.186	Significant

domestic currency	Groups						
	Within Groups	258.252	57	4.531			
	Total	273.933	59				
Change in attitude of customers	Between Groups	27.531	2	13.766	2.65	0.079	Significant
	Within Groups	296.119	57	5.195			
	Total	323.65	59				
Source: Own computation							

Table 5.26 above depicts the relationship between the experience of the Bankers/ FEs and causes of FCE Risks at 5% level of significance. In majority of the causes for FCE Risks, the p-value is greater than 0.05. Hence, we do not reject the null Hypotheses in respect of relationship between the experience of the Bankers/ FEs and causes of FCE Risks for all the causes, except identification of exchange rate risks and unawareness about problems related with currency exposure implying that there is no significant relationship between experience of the Bankers/ FEs and their perception towards the causes of FCE Risks.

5.13.7 Perception of Bank Officials/ Financial Experts towards the Reasons for non-adoption of Hedging strategies by SMEs/ Corporates

Currencies, other than hard currencies, are difficult to hedge due to high hedging costs or non-existence of products like forward or options for these soft currencies. Besides, volatility of currencies also makes it easier for the MSMEs/ corporates to think that implementing a hedging strategy may have counter-effective results compared to maintaining a status quo. The situation is supplemented by lack of knowledge/ skills, poor internal resources or no or inadequate risk culture in the organisation. Lack of visibility and acumen to assess organisation's real exposure to multiple currencies also cause delay in

selecting and implementing suitable hedging strategy.

However, in this study an attempt has been made to seek opinion of Bank Officials, Financial Experts towards the reasons for non-adoption of hedging strategies by SMEs/ Corporates for managing their FCE Risks effectively.

In view of the foregoing, nine items were identified and two possible responses namely YES (1) and NO (2) for the questions were offered. $\chi 2$ test was computed to test the significance. The following Hypotheses was formulated and tested.

HO3	There is no significant agreement among the respondents Bank Officials, Finance Experts in the ranking of reasons for non-adoption of Hedging strategies by SMEs/ Corporates

The information was collected and the responses are furnished in Table Table 5.32. The analysis is presented in the following paras.

5.13.8 Low business volumes

Percentage agreed and Top Two Box indicate that 86.66% agreed that the SMEs/ Corporates avoid adhering to hedging strategies for mitigating their FCE Risks due to low business volume. As per Top Box and Net Top Box, 48.33% and 36.66% respectively agreed that reason for non-adoption of Hedging strategies by SMEs/ Corporates was low business volume. As per Z-Score to Percentile Rank, 59.57% agreed that the low business volume of SMEs/ Corporates was reason for not adoption of hedging techniques. About 7% of respondents are in disagreement. The COV of 22.75 indicates that the inconsistency among the respondents is up to 22.75%. It is observed that $p < .05$ (it is $p =<0.0066$) and is significant. Therefore, it can be concluded that the respondents are in agreement with the statement that low business volume of the SMEs/ Corporates lead to non-adoption of Hedging strategies by SMEs/ Corporates (Table 6.174 & 6.175).

5.13.9 Availability of natural hedge

Goldberg et al. (2007) state that firms create natural hedge by establishing their operations in the same country where they sale their products. In doing so they generate their revenue in the same currency they incur expenditure. This makes it possible to match their cash inflows and outflows in foreign currency. Gleason et al. (2005) share that natural hedges are primarily and most relevantly used by multinational companies when they set up operational units in different geographical areas and get reduced cost and increased revenue. Goldberg et al. (2007) advise that firms use natural hedges' strategies to limit the risk of foreign exchange exposure, however, the choice of this strategy is not entirely up to the firm since completive pressures often dictate the choice.

Percentage agreed and Top Two Box indicate that 91.66% agreed that the SMEs/ Corporates do not stuck to hedging strategies because of their availability of natural hedge. As per Top Box and Net Top Box, 58.33% agreed that the availability of natural hedge make comfortable in non-adopting hedging strategies. As per Z-Score to percentile rank, 68.42% agreed that the Availability of natural hedge is one the of reasons for non-adoption of hedging strategies by SMEs/ Corporates. About 5% respondents are in disagreement. The COV of 19.68 indicates that the inconsistency among the respondents is up to 19.68%. It is observed that $p < .05$ (it is $p \leq 0.0001$) and it is significant. Therefore, it can be concluded that the respondents strongly agreed that availability of natural hedge SMEs/ Corporates lead to non-adoption of Hedging strategies by SMEs/ Corporates (Table 6.174 & 6.175).

5.13.10 Cost of hedging exceeds the expected benefits

In the backdrop of frequent currency fluctuations, stretched margins, competitive environment, longitudinal and latitudinal flow of Chinese goods, SMEs face pressure on price and quality of their goods/ products. This is the reason that SMEs or even large

corporates pay minute attention to their cost of funding and decide inter-alia on pricing of credit facilities and levying of other service charges by the banks. One of the respondents reveal-

"*If we do not care for our cost, we may lose the contract next time to someone else*"

Getting apprehensive from increased cost of borrowing vis-à-vis pricing of products, SMEs at times avoid even taking necessary precautions like ECGC, a safeguard for FCRM. ECGC cover plays an important role especially when payment issues occur from buyers. One of the participants from banking industry shares that banks need to bring out the benefits of ECGC schemes clearly into the notice of exporters. For example, in a few cases banks themselves bear the cost of ECGC premium instead of recovering it from borrowers.

Percentage agreed and Top Two Box indicate that 92.34% agreed that the SMEs/ Corporates do not stuck to hedging strategies because cost of hedging exceeds their expected benefits. As per Top Box and Net Top Box, 61.67% agreed that due to cost of hedging exceeding expected benefits, SMEs/ Corporates do not use hedging strategies. As per Z-Score to percentile rank, 76.21% agreed that the cost of hedging exceeding expected benefits is the reason for SMEs/ Corporates non-adoption of hedging strategies. About 2% of respondents are in disagreement. The COV of 16.04 indicates that the inconsistency among the respondents is up to 16.04%. It is observed that p> .05 (it is p =<0.0001) and it is significant. Therefore, it can be concluded that the respondents almost strongly agreed that cost of hedging exceeding expected benefits lead to non-adoption of Hedging strategies by SMEs/ Corporates (Table 6.174 & 6.175).

5.13.11 Unawareness about various internal and external hedging strategies and techniques

Goldberg et al. (2007) share that most of the time entities stick to 'doing nothing' strategy for managing their foreign currency exposure. Whereas McCarthy (2003), Morey et al.

(2001) share that foreign currency risk exposed firms can use both financial hedging strategies (forward contracts, future contracts, swaps, options etc.) and operational hedging strategies (natural hedging, pricing mechanisms etc.) to mitigate FCE risks.

Percentage agreed and Top Two Boxes indicate that 81.66% agreed that SMEs/ Corporates do not adopt hedging strategies because of their unawareness about various internal and external hedging strategies and techniques. As per Top Box and Net Top Box, 23.33% and 21.66% respectively, agreed that the SMEs/ Corporates unawareness about various internal and external hedging strategies and techniques is one of the reasons for their non-adoption of hedging strategies. As per Z-Score to percentile rank, 46.42% agreed that SMEs/ Corporates unawareness about various internal and external hedging strategies and techniques is the reason. About 7% of respondents are in disagreement. The COV of 23.64 indicates that the inconsistency among the respondents is up to 23.64%. It is observed that $p > .05$ (it is $p = 0.00488$) and it is significant. Therefore, it can be concluded that the respondents agreed that unawareness of SMEs/ Corporates about various internal and external hedging strategies and techniques results in their non-adoption of hedging techniques (Table 6.174 & 6.175).

5.13.12 Non-availability of trained staff

Pramborg (2005) point out that a few prominent reasons corporates avoid hedging could be insignificant forex exposure and the cost of setting up a hedging programme. To this end, due to high cost of establishing a hedging programme, and low magnitude of international involvement of SMEs in comparison with large MNEs, SMEs might choose not to hedge. Experts contend that in SMEs and small corporates, the relevant operating staff who handle day to day banking and other financial operations usually neither have the authority not the proper incentives to reduce foreign exchange risk of their entities.

Percentage agreed and Top Two Boxes indicate that 91.66% agreed that the issue of non-

adoption of hedging strategies by SMEs/ Corporates due to non-availability of trained staff. As per Top Box and Net Top Box, 18.33% agreed that non-availability of trained staff is the reason for non-adoption of hedging strategies by SMEs/ Corporates. As per Z-Score to percentile rank, 54.38% agreed that non-availability of trained staff is the reason for non-adoption of hedging strategies by SMEs/ Corporates About 2% respondents are in disagreement. The COV of 14.92 indicates that the inconsistency among the respondents is up to 14.92%. It is observed that p >.05 (p =0.00398) and it is significant. Therefore, it can be concluded that the respondents are in agreement that that non-availability of trained staff is the reason for non-adoption of hedging strategies by SMEs/ Corporates (Table 6.174 & 6.175).

5.13.13 Absence of Hedging Cost Budget

Percentage agreed and Top Two Boxes indicate that 90% agreed that the absence of Hedging Cost Budget is the reason for non-adoption of hedging strategies by SMEs/ Corporates. As per Top Box and Net Top Box, 30% agreed that the issue of non-adoption of hedging strategies by SMEs/ Corporates is due to absence of hedging cost budget. As per Z-Score to Percentile Rank, 54.75% agreed that the problem of absence of hedging cost budget leads to non-adoption of hedging strategies by SMEs/ Corporates. About 6% of respondents are in disagreement. The COV of 20.43 indicates that the inconsistency among the respondents is up to 20.43%. It is observed that p <.05 (it is p =0.00359) and it is significant. Therefore, it can be concluded that the respondents are in agreement that absence of hedging cost budget leads to non-adoption of hedging strategies by SMEs/ Corporates (Table 6.174 & 6.175).

5.13.14 Limited Hedging Products available at OTC

Not having a hedging cost budget also acts as a detriment for companies to exit unprofitable hedges 20. Percentage agreed and Top Two Boxes indicate that 90% agreed that availability of limited hedging products is a reason for non-adoption of hedging strategies by SMEs/ Corporates. As per Top Box and Net Top Box, 15% agreed that the Limited Hedging Products availability at OTC is a reason for non-adoption of hedging strategies by SMEs/ Corporates. As per Z-Score to Percentile Rank, 47.33% agreed that Limited Hedging Products availability at OTC leads to non-adoption of hedging strategies by SMEs/ Corporates. About 6% of respondents are in disagreement. The COV of 18.89 indicates that the inconsistency among the respondents is up to 18.89%. It is observed that $p < .05$ (it is $p=0.00606$) and it is significant. Therefore, it can be concluded that the respondents are in agreement that availability of limited hedging products is a reason for non-adoption of hedging strategies by SMEs/ Corporates (Table 6.174 & 6.175).

5.13.15 Structured products offered by the Banks

Percentage agreed and Top Two Box indicate that 80% agreed that the banks' offering structured / exotic products to SMEs/ Corporates is a reason for non-adoption of hedging strategies. As per Top Box and Net Top Box, 33.33% and 31.66% respectively, respondents agreed that the non-adoption of hedging strategies by SMEs/ Corporates is due to structured products offered by the Banks. As per Z-Score to Percentile Rank, 48.72% agreed that non-adoption of hedging strategies by SMEs/ Corporates is due to structured products offered by the Banks. About 14% of respondents are in disagreement. The COV of 26.24

[20] Vikram Muraruka, first step to success in hedging: Sanction or Hedging Cost Budget (http://kshitij.com)

indicates that the inconsistency among the respondents is up to 26.24%. It is observed that p <.05 (it is p=0.00805) and it is significant. Therefore, it can be concluded that, though the respondents are in agreement that non-adoption of hedging strategies by SMEs/ Corporates is due to structured products offered by the Banks (Table 6.174 & 6.175).

5.13.16 Difficulty in pricing and valuing derivatives

Percentage agreed and Top Two Boxes indicate that 80% agreed that the difficulty in pricing and valuing derivative is a reason for non-adoption of hedging strategies by SMEs/ Corporates. As per Top Box and Net Top Box, 41.67% agreed that the difficulty in pricing and valuing derivative is a reason for non-adoption of hedging strategies by SMEs/ Corporates. As per Z-Score to Percentile Rank, 51.22% agreed that the difficulty in pricing and valuing derivative is a reason. About 11% of respondents are in disagreement. The COV of 26.99 indicates that the inconsistency among the respondents is up to 26.99%. It is observed that p < .05 (it is p =0.00813) and it is significant. Therefore, it can be concluded that the respondents are almost strongly agreed that the difficulty in pricing and valuing derivative is a reason for non-adoption of hedging strategies by SMEs/ Corporates (Table 6.174 & 6.175).

Perception of SMEs/ Corporates towards the Reasons for not adopting Hedging Mitigation Measures for FCE Risks – Statistical values-1

Table 5-27 Reasons for not adopting Hedging Strategies-1

Sr. No.	Particulars	Percentage agree	Top Box	Top Two Box	Net Top Box	Z-Score to Percentile Rank	COV
1	Low business volumes	86.66	48.33	86.66	36.66	59.57	22.75
2	Availability of natural hedge	91.66	58.33	91.66	58.33	68.42	19.68
3	Cost of hedging exceeds the expected benefits	92.34	61.67	92.34	61.67	76.21	16.04
4	Unawareness about various internal and external hedging strategies and techniques	81.66	23.33	81.66	21.66	46.42	23.64
5	Non-availability of trained staff	91.66	18.33	91.66	18.33	54.38	14.92
6	Absence of Hedging Cost Budget	90	30	90	30	54.75	20.43
7	Limited Hedging Products available at OTC	90	15	90	15	47.33	18.89
8	Structured products offered by the Banks	80	33.33	80	31.66	48.72	26.24
9	Difficulty in pricing and valuing derivatives	80	41.67	80	41.67	51.22	26.99
Source- Own computation							

Perception of SMEs/ Corporates towards the Reasons for not adopting Hedging Mitigation Measures for FCE Risks – Statistical values-2

Table 5-28 Reasons for not adopting Hedging Strategies-2

Test Value = 4	N	Mean	Std. Deviation	Std. Error Mean	T test	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Low business volumes	60	4.2333	0.9632	0.1243	1.877	59	0.0066	0.2333	-0.016	0.4821
Availability of natural hedge	60	4.4167	0.8693	0.1122	3.713	59	0	0.4167	0.1921	0.6412
Cost of hedging exceeds the expected benefits	60	4.5167	0.7247	0.0936	5.523	59	0	0.5167	0.3295	0.7039
Unawareness about various internal and external hedging strategies and techniques	60	3.9167	0.925	0.1195	-0.697	59	0.0488	0.083	-0.323	0.1559
Non-availability of trained staff	60	4.0667	0.6069	0.0784	0.851	59	0.0398	0.0667	-0.09	0.2235
Absence of Hedging Cost	60	4.1	0.8377	0.1081	0.925	59	0.0359	0.1	-0.116	0.3164

Budget										
Limited Hedging Products available at OTC	60	3.95	0.7462	0.0963	-0.519	59	0.0061	0.05	-0.243	0.1428
Structured products offered by the Banks	60	3.9667	1.041	0.1344	-0.248	59	0.0081	0.0333	-0.302	0.2356
Difficulty in pricing and valuing derivatives	60	4.0333	1.0887	0.1406	0.237	59	0.0081	0.0333	-0.248	0.3146
Source- Own computation										

5.14 Perception of Bank Officials/ Finance Experts towards Internal Hedging Techniques

Kula (2005) reveal through his study that SMEs are less familiar with external hedging techniques such as forwards, futures, swaps, and options. Lamarre et al. (2008) shares that firms with foreign exchange exposure usually prefer to operational strategies namely passing the currency risk on to the customer, moving their production to countries with lower costs and thus improving their productivity and revenue. Experts opine that hedging requires sophisticated risk management skills and financial acumen which are not the natural strengths of small and medium enterprises. Lack of resources and knowledge put constraints on their initiatives of managing their genuine currency risks exposure smoothly through external hedging techniques.

With a view to know the perception of the respondents bankers/ FEs on SMEs'/ corporates'

adopting hedging strategies responses were invited. The following Hypotheses was formulated and tested.

HO4	There is no significant agreement among the respondents Bank Officials, Finance Experts in the ranking of awareness/use of Foreign Currency Risk Internal Hedging Techniques / Products by SMEs/ corporates.

The responses are furnished in (Table 5.29) and analysis is presented in the following paras.

5.14.1 Entering into an agreement with the clients for sharing currency risk

Experts opine that entering into an agreement with the clients for sharing currency risk is regarded as the simplest internal hedging strategy and help in managing transaction risks. Firms can decrease their dependency on one currency by partnering with other firms that have a broader global reach, thus diversifying their income streams to a number of currencies. But Lamarre et al. (2008), and Bartram et al.., (2010) add that implementation of this strategy depend on the market conditions which sometimes prohibit a firm from implementing this strategy in full, and/or even partially as the amount of the risk that can be passed to the customer depends on whether the product has substitutes in the market or not.

Contrary to it, however, 81.67% of respondents are in favour of the thought that entering into an agreement with the clients for sharing currency risk is good strategy for hedging FCE risks. The results indicated that $\chi 2$ value (24.07) is more than the critical value and the relationship is significant. So it can be concluded that there is significant agreement among the bank official and financial experts (respondents) in the perception that entering into an agreement with the clients for sharing currency risk as an internal hedging strategy may mitigate FCE risks (Table 5.29).

5.14.2 Matching foreign currency trade payments/ receipts against receipts/ payments in the same foreign currency

This strategy involves matching foreign sales with foreign purchases. Bankers/ FEs responded to this statement and 81.67% of respondents agreed that matching foreign currency trade payments/ receipts against receipts/ payments in the same foreign currency is a feasible and practical option for mitigating FCE risks. The relationship is significant as the $\chi 2$ value (24.07) is more than critical value. Hence it can be concluded that there is significant agreement among the bank official and financial experts (respondents) in the perception that matching foreign currency trade payments/ receipts against receipts/ payments in the same foreign currency is a practical internal hedging strategy for risk mitigation (Table 5.29).

5.14.3 Multi-currency billing systems and price adjustment

During personal deliberations, a few SMEs exporters were of the view that selling price of the products be got increased simultaneously with exchange rates going up. Whereas a few opined that increasing prices of the products simultaneously with the appreciation in the currency, may impact the sale, as the buyers may switch over to the other similar products, affordable to their buying capacity. Bartram et al., (2010) also supplement the feelings stating that multicurrency billing systems and pricing adjustment mechanisms depend on the rivalry in the market and are not instantly available to the firms. So increase in the prices vis-à-vis currency fluctuations may result in loss of business.

However, experts believe that a few factors viz value of the transaction, current exchange rate of both domestic currency and invoicing currency, forecasted exchange rates and the degree of fluctuation in the currency used for overseas operations are the significant factors that are reckoned by the entities while managing currency exposure. Hence, while negotiating prices, and other payment terms, efforts should be made to invoicing exports

through multi-currency billing systems. This safeguards that the volatility of one of the currencies can be offset by another that is performing better (Lamarre & Pergler, 2008)

Results indicated that 78.67% of respondents agreed that multi-currency billing systems and price adjustment is doable strategy. The relationship is significant as the $\chi 2$ value (11.27) is more than critical value. So it can be concluded that there is significant agreement among the bank official and financial experts (respondents) in the perception that multi-currency billing systems and price adjustment is doable strategy as an internal hedging strategy to mitigate FCE risks (Table 5.29).

5.14.4 Invoicing exports/ imports through hard currency like USD or Euro etc.

Compared to less traded currencies, markets for hard currencies are more liquid and global. Hedging in hard currencies viz INR- USD, INR-EURO, INR-Yen etc. is easier as the transactions can be entered into and squared off as many times as required. Moreover, since information related to the movement of popular and tradable currencies a.k.a. hard currencies is available live and freely through internet, social media, whatsup etc., SMEs/ small corporates can judge forecasting and take decisions related to stop loss, entry, exit etc.

Responses indicated that 78.33% of Bank officials/ FEs agreed that invoicing exports/ imports through hard currency like USD or Euro etc. is good internal hedging strategy. The relationship is significant as the $\chi 2$value (19.27) is more than critical value and hence it can be concluded that invoicing exports/ imports through hard currency like USD or Euro etc. is a practical internal hedging strategy for risk mitigation (Table 5.29).

5.14.5 Negotiating imports pricing in domestic currency(INR)

Responses indicated that 63.33% of respondents agreed that negotiating imports pricing in domestic currency (INR) is a practical and good internal hedging strategy. Relationship

is significant as the $\chi 2$ value (4.27) is more than the critical value. Hence it can be concluded that there is significant agreement among the bank official and financial experts (respondents) in the perception that negotiating imports pricing in domestic currency (INR) is a good option of internal hedging strategy for risk mitigation (Table 5.29).

5.14.6 Leading and lagging- Inter-entity netting of receipts and payments

Leading and lagging may be defined as netting of FCE through cross hedging, using cash flows in different currencies to offset each other. Experts contend that it is a practical and approachable internal hedging strategy for mitigating FCE risks.

Bankers/ FEs were asked to respond to this statement and the results indicated that 60% of them agreed that leading and lagging through inter-entity netting of receipts and payments is good strategy for hedging FCE risks. The relationship is significant as the $\chi 2$value (4.20) is more than critical value. Hence it can be concluded that there is significant agreement among the bank official and financial experts (respondents) in the perception that leading and lagging through inter-entity netting of receipts and payments is good strategy for hedging FCE risks (Table 5.29).

5.14.7 Leading and lagging- Netting through cross hedging, using cash flows in different currencies to offset each other

Experts share that leading and lagging of local and /or foreign currency receivables from third parties or payables to third parties, followed by increased prices and use of foreign currency accounts are prominent hedging techniques after forward contracts.

The results indicated that 71.67% of respondents agreed that netting of FCE through cross hedging, using cash flows in different currencies to offset each other (Leading and lagging) is a practical and approachable internal hedging strategy for mitigating FCE risks. The relationship is significant as the $\chi 2$value (4.97) is more than critical value. Hence it can be

concluded that there is significant agreement among the bank official and financial experts (respondents) in the perception that netting of FCE through cross hedging, using cash flows in different currencies to offset each other payments is good strategy for hedging FCE risks (Table 5.29).

Table 5-29 Perception of Bank Officials, Finance Experts towards External Hedging Techniques

Sl. No	Particulars	Yes	No	Total	% Yes	% No	Calculated X2 value	Critical X2 value	Remarks
1	Entering into an agreement with the clients for sharing currency risk	49	11	60	81.67	18.33	24.07	3.84	Significant
2	Matching foreign currency trade payments/ receipts against receipts/ payments in the same foreign currency	49	11	60	81.67	18.33	24.07	3.84	Significant
3	Multi-currency billing systems and price adjustment	43	17	60	71.67	28.33	11.27	3.84	Significant

4	Invoicing exports/ imports through hard currency like USD or Euro etc.	47	13	60	78.33	21.67	19.27	3.84	Significant
5	Negotiating imports pricing in domestic currency(INR)	38	22	60	63.33	36.67	4.27	3.84	Significant
6	Leading and lagging- Inter-entity netting of receipts and payments	36	24	60	60	40	4.20	3.84	Significant
7	Leading and lagging- Netting through cross hedging, using cash flows in different currencies to offset each other	43	17	60	71.67	28.33	4.97	3.84	Significant
Source: Own computation									

5.15 Perception of Bank Officials/ Finance Experts towards External Hedging Techniques

Each entity has its unique strategy to deal with foreign exchange exposure vis-à-vis currency risk management. Artsberg (2005) advise that strategies to use different tools for currency risk management differs from company to company.

Besides having the perception of bank officials/ finance experts on the ranking of deployment of hedging strategies/ techniques by SMEs/ Corporates for mitigating their risks from FCE, an attempt has been made to know the perception of the respondent bank officials/ finance experts towards deployment of hedging strategies/ techniques by SMEs/ Corporates for mitigating their FCE risks.

For the sake of easiness and clarity to respondents, the hedging strategies/ techniques have been bifurcated in the questionnaire in two categories- external and internal. This was done in the backdrop of our discussions with the representatives/ stakeholders from SMEs and small corporates and experts from industry/ segment. While making discussing with them on one to one basis, in personal interviews, through telephonic conversions etc. on various aspects of internal hedging strategies/ techniques, it was observed that these stakeholders, representative, industry experts were having different view for adoption of hedging techniques/ strategies. For instance, the stakeholders from SMEs/ corporates were more inclined to adopt internal hedging strategies/ techniques except forward contracts or no hedging techniques for managing their foreign currency exposure risks. Whereas the industry experts, bank officials/ finance experts were of the strong view that in case of non –availability of natural hedge, SMEs/ Corporates should prefer external hedging strategies to internal hedging techniques, including no- hedging strategy. However, they were sceptical about SMEs/ Corporates' expertise in dealing with complex derivatives products and banded together that SMEs/ Corporates should exercise restraints in going for structured products/ zero cost structures. Banking and Financial Experts were of the view that SMEs should stick to prime motto of managing their exposure against currency fluctuations instead of making gains through speculation.

In view of the foregoing, seven items in both each category were identified and two possible responses namely YES (1) and NO (2) for the questions were offered. $\chi 2$ test was

computed to test the significance. The responses are furnished in Table 5.30 and analysis is presented in the following paras.

Table 5-30 Perception of Bank Officials/ Finance Experts towards awareness of SME/ corporates for External Hedging Products

External Hedging Products	Mean	Rank
Forward Contract	6.0274	1
Options	5.4575	2
Futures	4.3151	3
Swaps/ Forward Rate Agreements (FRAs), Interest Rate Swaps (IRSs)	3.9890	4
Structured Products	3.1507	5
Zero Cost Structure	2.9452	6
Covered options	2.1151	7
Source: Own computation		

As may be observed form the above Table-6.150 that the mean score of Forward Contract is high followed by Options and Futures in respect of awareness of SMEs/ corporates towards Foreign Currency Risk hedging techniques / products. Respondents have ranked covered options as lowest.

The Kendall's coefficient of concordance (W) was computed and the results are furnished in Table 6.151. The calculated W was 0.419, indicating a fair degree of agreement among bank officials, finance experts in the ranking of awareness of SMEs/ corporates about the external hedging products. The following Hypotheses was formulated and tested.

HO5	There is no significant agreement among the respondents Bank Officials, Finance Experts in the ranking of awareness/use of Foreign Currency Risk External Hedging Techniques / products by SMEs/ corporates.

Table 5-31 Test Statistics

Kendall's Coefficient of Concordance–	
N	60
Kendall's W	0.419
Chi-Square	916.752
df	6
Asymp. Sig.	.0001
Source: Own computation	

We found out the critical value through computation of $\chi 2$ distribution values, with confidence of $1 - \alpha$, and $df = n - 1$. Comparing the $p < 0.0001$ with the significance level $\alpha=0.05$, the null Hypotheses was rejected that there is significant agreement among the respondents Bank Officials, Finance Experts in the ranking of awareness/use of Foreign Currency Risk hedging techniques / products by SMEs/ corporates.

There were two possible responses namely YES (1) and NO (2) for the questions and $\chi 2$ test was computed to test the significance. The responses are furnished in Table 5.32.

5.15.1 Forward Contract

Cent percent of respondents agreed that forward contract is the most common external hedging strategy/ techniques for mitigating FCE Risks. The relationship is significant as the $\chi 2$ value (29.47) is more than critical value. Hence it can be concluded that there is significant agreement among the bank official and financial experts (respondents) in the perception that entering into forward contract is good strategy/ technique for hedging of FCE risks (Table 5.32).

5.15.2 Options

71.67% of respondents agreed that options is a good and practical strategy for FCE risks

mitigation. The relationship is significant as the $\chi 2$ value (19.53) is more than critical value; and hence it can be concluded that there is significant agreement among the bank official and financial experts (respondents) in the perception that undertaking options for hedging of FCE risks is a good external hedging strategy/ technique (Table 5.32).

5.15.3 Covered Options

The results indicated that as against 11.67% favourable respondents agreed, 88.33% of respondents disagreed that covered options is a good and practical strategy for FCE risks mitigation. The relationship is significant as the $\chi 2$ value (4.32) is more than critical value. Hence, it can be concluded that there is significant agreement among the bank official and financial experts (respondents) in the perception that undertaking covered options for hedging of FCE risks is not a good external hedging strategy/ technique (Table 5.32).

5.15.4 Futures

The results indicated that 66.58% of respondents agreed that long and short of futures is a practical and good external hedging strategy/ technique for hedging of FCE risks and the relationship is significant as the $\chi 2$ value (39.30) is more than the critical value. Hence, it can be concluded that there is significant agreement among the bank official and financial experts (respondents) in the perception that buying and selling of futures is a practical and good external hedging strategy/ technique for hedging of FCE risks (Table 5.32).

5.15.5 Swaps/ Interest Rate Swaps (IRSs), Forward Rate Agreements (FRAs)

Questionnaires results indicated that 40 % of respondents agreed that Swaps/ Interest Rate Swaps (IRSs), Forward Rate Agreements (FRAs) is a good external hedging strategy/ technique for hedging of FCE risks. Whereas, 60% of the disagreed respondents also share that these products are not very common in the market and hence are not easily available for mitigating FCE risks. Although questionnaires' responses reveal that the relationship is

significant as the $\chi 2$ value (26.40) is more than critical value and hence, it can be concluded that there is significant agreement among the bank official and financial experts (respondents) in the perception that Swaps/ Interest Rate Swaps (IRSs), Forward Rate Agreements (FRAs) is a known external hedging strategy/ technique for hedging of FCE risks. (Table 5.32).

5.15.6 Structured Products

Questionnaires results indicated that 70% of respondents disagreed that buying structured products from ADs or banks is a good external hedging strategy/ technique for hedging of FCE risks. Contrary to it, only 30% of the respondents concurred for structured products. The relationship is significant as the $\chi 2$ value (8.55) is more than critical value; and hence, it can be concluded that there is significant agreement among the bank official and financial experts (respondents) in the perception that Structured Products is a known external hedging strategy/ technique for hedging of FCE risks. (Table 5.32).

5.15.7 Zero Cost Structure

Questionnaires results indicated that 80 % of respondents disagreed that entering zero cost structures through ADs or banks is a good external hedging strategy/ technique for hedging of FCE risks. Contrary to it, only 20% of the respondents concurred for zero cost structure products. The relationship is significant as the $\chi 2$ value (4.67) is more than critical value; and hence, it can be concluded that there is significant agreement among the bank official and financial experts (respondents) in the perception that Zero Cost Structure is a known external hedging strategy/ technique for hedging of FCE risks. (Table 5.32).

Table 5-32 Perception of Bank Officials, Finance Experts towards External Hedging Techniques

Sl. No.	Impact	Yes	No	Total	% Yes	% No	Calculated $\chi 2$ value	Critical $\chi 2$ val	Remarks
1	Forward Contract	60	0	60	100.00%	0.00%	29.47	3.84	Significant
2	Options	43	17	60	71.67%	28.33%	19.53	3.84	Significant
3	Covered Options	7	53	60	11.67%	88.33%	4.32	3.84	Significant
4	Futures	40	20	60	66.58%	33.42%	39.30	3.84	Significant
5	Swaps/ Forward Rate Agreements (FRAs), Interest Rate Swaps (IRSs)	24	36	60	40.00%	60.00%	26.40	3.84	Significant
6	Structured Products	18	42	60	30.00%	70.00%	8.55	3.84	Significant
7	Zero Cost Structure	12	48	60	20.00%	80.00%	4.67	3.84	Significant
Source: Own computation									

5.16 Perception of Bankers and Financial Experts on UFCE of SMEs/ Corporates

With the passage of time, India has increasingly become an open economy and external trade currently accounts for 40 percent of GDP, which is more than that of other large supposedly open economies like China (37 percent) and US (27 percent). Over last three decades, Indian foreign exchange market has made long strides in terms of turnover, types of instruments and participation base. Average daily forex turnover has increased from approximately $27 billion in 2005-06 to $ 62 billion approx. currently, evidencing considerably liquid market with compressing bid ask spreads. Both well-established Over

The Counter (OTC) market and fast gearing exchange-traded market are providing diversified range of products for hedging currency risks with minimal cost and improved transparency.

In spite of this, the unhedged exposure of Indian entities is quite high. Various studies and estimates suggest that approximately two-thirds of total gross forex exposures is unhedged. UFCE create vulnerability when there is a global event and hard currency investments are repatriated by foreign investors. UFCE increase risk-weighted assets (RWA) for the Banks and they are required to create more provision from their profit.

Experts put forth that hedging is often left incomplete, albeit, for a number of reasons. First, psychological factors undermine rational hedging. People prefer a sure gain, but they also prefer an uncertain outcome with a small probability of gain to a sure loss. In other words, hedging involves a small sure cost, and without it there is a small probability of a large gain. They are, therefore, willing to forgo hedging and undertake more risk than is rational.[21]

Unhedged Foreign Currency Exposure (UFCE) of SMEs/ Corporates are a source of risk not only to the individual entity/ corporate but also large potential credit loss to their bankers. Banks not only bear the credit risk arising from unhedged exposure to their clients but also market risk on such unhedged / partially hedged clients' transactions. UFCEs of corporates not only impact adversely the bottom line of banks on account of increase in provision and enhancement in capital but also it may lead them to severe distress in the event of sharp adverse movements in currencies but also

[21] Managing commodity and currency risk, Ashima Goyal ,The Business Line, Published on March 6, 2017

An attempt was made to know the perception of the respondents Bankers and Financial Experts on this aspect. Seven items, considered relevant for occurrence of UFCE by SMEs/ Corporates, were identified for their responses.

The analysis of responses is furnished in Table 5.33 to Table 5.35.

Table 5-33 Perception of Bankers, FEs on Reasons behind UFCE of by SMEs/ Corporates

Reasons behind UFCE	**Mean**	**Rank**
Lack of Forex Management Skills	5.9667	1
Difficulty in estimating exposure effect	5.0833	2
Data collection and management by banks	4.9333	3
Non-availability of trained staff	3.7667	4
Over/under financing	3.2667	5
Aggressive lending by Banks for improving volume of business	2.9333	6
Absence of industry wise exposure limits for SMEs/ small Corporates	2.0500	7
Source: Own computation		

It can be seen from the Table-5.33 that the mean score is highest in respect of Lack of Forex Management Skills. The second and third significant factors were 'Difficulty in estimating exposure effect' and 'Data collection and management by banks' respectively. 'Non-availability of trained staff' and 'Over/under financing' were ranked moderately. Respondents have ranked absence of industry wise exposure limits for SMEs/ small Corporates as lowest. It may be concluded, therefore that, most prominent factor specific to different causes of behind UFCE of SMEs/ Corporates was Lack of Forex Management Skills (SMEs/ corporates). The following Hypotheses was formulated and tested.

HO6	There is no significant agreement among the respondents Bankers and Financial Experts in the ranking of different reasons behind UFCE of SMEs/ Corporates

The critical value was calculated through computation of $\chi 2$ distribution values, with confidence of $1 - \alpha$, and $df = n - 1$. The Kendall's coefficient of concordance (W) was computed and the results are furnished in Table 5.34.

Table 5-34 Test Statistics

Kendall's Coefficient of Concordance	
N	60
Kendall's W	0.409
Chi-Square	147.150
df	6
Asymp. Sig.	0.0001
Source: Own computation	

The calculated W was 0.409, indicating a fair degree of agreement among agreement among bank officials in the ranking of reasons behind UFCE of SMEs/ corporates. Comparing the $p < 0.0001$ with the significance level $\alpha = 0.05$, the Hypotheses was rejected in favour of significant agreement among the respondents Bankers and Financial Experts in the ranking of different reasons behind UFCE of SMEs/ Corporates (Table 6.165).

Besides the impacts of UFCE which were ranked by the respondents Bankers and Financial Experts, an attempt was also made to know the perception of the respondents with regard to following aspects of UFCE. There were two possible responses namely YES (1) and NO (2) for the questions and $\chi 2$ test was computed to test the significance. The responses are furnished in Table 5.35 and analysis is presented in the following paras.

5.16.1 Lack of Forex Management Skills

Experts express their concerns that if corporates do not hedge their foreign currency exposures properly and adequately, they bear the risk of incurring significant losses in case of negative exchange rate movements.

The results indicated that 71.67% of respondents agreed that lack of forex management skills of SMEs/ corporates is a major reason for keeping their foreign currency exposure unhedged. The relationship is significant as the $\chi 2$ value (11.26) is more than critical value. Hence it can be concluded that there is significant agreement among the bank official and financial experts (respondents) in the perception that lack of forex management skills of SMEs/ corporates is a cause for keeping their FCE unhedged (Table 5.35).

5.16.2 Difficulty in estimating exposure effect

Loderer et al., (2000), Papaioannou (2006) and Pramborg (2005) advise that many entities fail to initiate suitable and timely steps because of their difficulties in measuring forex exposure. They find themselves constrained in estimating future cash flows and lose ground.

Bankers/ Financial Experts responded to this statement and the results indicated that 63.33% of respondents agreed that difficulty in estimating exposure effect by SMEs/ corporates is a major reason for keeping their foreign currency exposure unhedged. The relationship is significant as the $\chi 2$value (4.26) is more than critical value. Hence it can be concluded that there is significant agreement among the bank official and financial experts (respondents) in the perception that difficulty in estimating effect of unhedged exposure is a cause for keeping UFCE by SMEs/ Corporates (Table 5.35).

5.16.3 Data collection and management by banks

RBI requires banks to monitor unhedged foreign currency exposure of their clients/ borrowers and collect data/ information on monthly intervals. RBI also requires banks to share this collected data on monthly and quarterly intervals with outside agencies like CRLIC, CIBIL, RBS etc.

In the context, one of the significant problems faced by the banks is timely obtention of comprehensive and accurate information/ data from their customers and its proper evaluation for maintaining increased provisions and capital. An other is eternal staff shortage problem at their end.

Crippling with these issues, banks find themselves constrained in evaluating the unhedged forex exposure risks of their SMEs/ corporates borrowers and price them suitably into sanction of credit facilities.

Results indicated that 65% of respondents agreed that obtaining desired information and data related to UFCE in time from Corporates/ SMEs effect the banks in terms of their profitability and capital requirements. The relationship is significant as the $\chi 2$ value (9.4) is more than critical value. So it can be concluded that there is significant agreement among the bank official and financial experts (respondents) in the perception that obtaining UFCE data from SMEs/ corporates effect the banks in terms of their profitability and capital requirements (Table 5.35).

5.16.4 Non-availability of trained staff

Pramborg (2005) point out that a few prominent reasons corporates avoid hedging could be insignificant forex exposure vis-à-vis cost of imparting training to the respective operative staff. Experts contend that usually in SMEs/ small corporates, the relevant operating staff who handle day to day banking and other financial operations neither have

the authority not the proper incentives to reduce currency risk.

A few participants suggest that RBI in consultation with trade and industry bodies should conduct Forex awareness programmes with respect to currency exposure management for small corporates/ SMEs should be conducted. In this initiative, the agency like CII, FICCI, state level industrial bodies, may extend their cooperation. Lending institutions, banks may also participate in the process at least for their borrowal clients.

Results indicated that 55% of respondents agreed that non-availability of trained staff at the level of SMEs/ corporates is a cause for their keeping foreign currency exposure unhedged. The relationship is significant as the $\chi 2$ value (9.4) is more than critical value. So it can be concluded that there is significant agreement among the bank official and financial experts (respondents) in the perception that non-availability of trained staff at the level of SMEs/ corporates is a cause for their keeping foreign currency exposure unhedged (Table 5.35).

5.16.5 Over financing / Under financing

Responses indicated that 76.67% of respondents agreed that over financing / under financing is a reason for SMEs/ Corporates to keep their foreign currency exposure unhedged. The extra or less inflow of funds compel them to manage their requirements from and to different segments which however put them into unnecessary risk quadrant. Relationship is significant as the $\chi 2$ value (17.06) is more than the critical value. Hence it can be concluded that there is significant agreement among the bank official and financial experts (respondents) in the perception that over financing / under financing is a reason for UFCE of SMEs/ corporates (Table 5.35).

5.16.6 Aggressive lending by Banks for improving volume of business

Bankers/ Finance Experts were asked to respond to this statement and 76.67% of

respondents agreed that aggressive lending by banks for improving their volume of business is also a reason for SMEs/ Corporates keeping their exposure unhedged. SMEs are aware that in case of pressure from their bankers for maintaining financial discipline and keep their exposure hedged, especially as per RBI guidelines, they may afford non-adherence to caveats and switch over to another bank for their financial requirements. The relationship is significant as the $\chi 2$value (17.06) is more than critical value. Hence it can be concluded that there is significant agreement among the bank official and financial experts (respondents) in the perception that aggressive lending by banks for improving volume of business is also a cause for UFCE of SMEs/ corporates (Table 5.35).

5.16.7 Absence of industry wise exposure limits for SMEs/ small Corporates

In spite of RBI assigning responsibilities for ensuring suitability and appropriateness while transacting hedging instruments with the corporates and ensuring that the corporates have appropriate risk management framework at their level as well, Banks find it difficult to price suitably the credit facilities of the borrowers for their unhedged exposures in an environment of low pick up in credit growth.

The relationship is significant as the $\chi 2$ value (5.04) is more than critical value. Hence it can be concluded that there is significant agreement among the bank official and financial experts (respondents) in the perception that absence of industry wise exposure limits for SMEs/ small Corporates is a cause for UFCE of SMEs/ corporates (Table 5.35).

Table 5-35 Perception of Bankers, FEs on Reasons behind UFCE

Sl. No.	Impact	Yes	No	Total	% Yes	% No	Calculated X2 value	Critical X2 value	Remarks
1	Lack of Forex Management Skills	43	17	60	71.67	28.33	11.26	3.84	Significant

2	Difficulty in estimating exposure effect	38	22	60	63.33	36.67	4.26	3.84	Significant
3	Data collection and management by banks	39	21	60	65.00	35.00	5.4	3.84	Significant
4	Non-availability of trained staff	33	27	60	55.00	45.00	9.4	3.84	Significant
5	Over/under financing	46	14	60	76.67	23.33	17.06	3.84	Significant
6	Aggressive lending by Banks for improving volume of business	46	14	60	76.67	23.33	17.06	3.84	Significant
7	Absence of industry wise exposure limits for SMEs/ small Corporates	39	21	60	65.00	35.00	5.4	3.84	Significant
Source: Own computation									

5.17 Perception of Bankers and Financial Experts on Suggestions for managing Risks from Foreign Currency Exposure of SMEs/ Corporates

The ranks and mean scores in respect of suggestions for managing Risks from Foreign Currency Exposure of SMEs/ Corporates on the basis of importance attributed by bank officials/ finance experts are furnished in Table 5.36.

Table 5-36 Perception of Bankers, FEs on Suggestions for managing Risks from Foreign Currency Exposure of SMEs/ Corporates

Suggestions	Mean	Rank
Structured/ complex derivatives products should be avoided	6.9260	1
Government should make hedging instruments cheaper and user friendly	6.4466	2
SMEs should prepare and adhere to a policy document on foreign currency risk management.	6.2658	3
Government should provide tax, non -tax based incentives to export oriented SMEs, particularly in case of appreciation in INR	5.7151	4
Easy availability of Exchange Traded Products	5.5452	5
SMEs should outsource professional and advisory services to take care of their foreign currency risk management	4.2384	6
SME should try to pass pricing fluctuations on to customers by entering price variance clauses	4.1041	7
Decisions for hedging should be quick and based on proper strategy	2.8959	8
Source: Own computation		

It can be seen from the Table- 5.36 that the mean score is highest in respect of suggestion 'Structured/ complex derivatives products should be avoided'. The second and third significant factors were 'Government should make hedging instruments cheaper and user friendly' and 'SMEs should prepare and adhere to a policy document on foreign currency risk management' respectively. 'Government should provide tax, non -tax based incentives to export oriented SMEs, particularly in case of appreciation in INR' and 'Easy availability of Exchange Traded Products' were ranked moderately. Respondents have ranked 'Decisions for hedging should be quick and based on proper strategy' as lowest. It may be concluded, therefore that, most prominent factor specific to different causes of behind

UFCE of SMEs/ Corporates was Lack of Forex Management Skills (SMEs/ corporates).

Kendall's coefficient of concordance (W) is widely recognised as the best metric for measuring non-parametric rankings (Okoli & Pawlowski, 2004). The value of W ranges from 0 to 1 (Kendall & Gibbons, 1990), with a value of 0 indicating no consensus and a value of 1 indicating perfect agreement between the experts (Okoli & Pawlowski, 2004). The Kendall's coefficient of concordance (W) was computed alongwith critical value which was calculated through computation of $\chi 2$ distribution values, with confidence of $1 - \alpha$, and df = n – 1. The following l Hypotheses was formulated and tested.

HO7	There is no significant agreement among the respondents Bankers and Financial Experts in the ranking of suggestions for managing Risks from Foreign Currency Exposure of SMEs/ Corporates

As may be observed from the following Table 5.37 the calculated W, was 0.310 and thus indicating a fair degree of agreement among bank officials in the ranking of different causes of FCE Risks. We found out the critical value through computation of $\chi 2$ distribution values, with confidence of $1 - \alpha$, and df = n – 1. Comparing the $p < 0.00001$ with the significance level $\alpha = 0.05$, the Hypotheses was rejected that there is significant agreement among the Bank Officials and Finance Experts (respondents) in the ranking of suggestions for managing Risks from Foreign Currency Exposure of SMEs/ Corporates.

Table 5-37 Test Statistics

Kendall's Coefficient of Concordance–	
N	60
Kendall's W	.310
Chi-Square	904.693
df	6
Asymptotic (Asymp.) Significance (Sig.)	.00001
Source: Own computation	

Besides the suggestions which were ranked by the respondent bankers and financial Experts, an attempt was also made to know their perception towards different aspects of suggestions for managing Risks from Foreign Currency Exposure of SMEs/ Corporates. There were two possible responses namely YES (1) and NO (2) for the questions and $\chi 2$ test was computed to test the significance. The responses are furnished in Table 5.38 and analysis is presented in the following paras.

5.17.1 Government to provide tax, non -tax based incentives, especially in case of appreciation in INR

The results indicated that 78.33% of respondents agreed that Government should provide tax, non -tax based incentives to export oriented SMEs for their hassle free FCE risk management, particularly in case of appreciation in INR. Since the relationship is significant as the $\chi 2$ value (19.27) is more than critical value, hence it can be concluded that there is significant agreement among the bank official and financial experts (respondents) towards the suggestion that Government assistance in tax, non -tax based incentives to SMEs/ small corporates, especially in case of appreciation in INR may be helpful in their FCE risk management. (Table 5.38).

5.17.2 Government should make hedging instruments cheaper and user friendly

The results indicated that 81.67% of respondents agreed that Government should make hedging instruments cheaper and user friendly. Relationship is significant as the $\chi 2$ value (24.07) is more than critical value and hence, it can be concluded that there is significant agreement among the bank official and financial experts (respondents) towards the suggestion that government support for making hedging instruments cheaper and user friendly may be helpful to SMEs/ small corporates for their FCE risk management (Table 5.38).

5.17.3 Easy availability of Exchange Traded Products

During deliberations, experts from SMEs, corporates, banks, finance areas etc. opine that there is a need for separate currency exchange in India which caters to the requirements of business enterprises for undertaking derivative transactions/products for hedging purpose only. Presently, Currency futures and Options are traded in equity and commodity exchanges. Setting up of a dedicated currency exchange just catering to hedgers will be beneficial for all stakeholders.

The survey results indicate that 78.33% of respondents agreed that efforts should be made by the concerned authorities to provide easy availability of Exchange Traded Products for hedging foreign currency risks. The relationship is significant as the $\chi 2$ value (19.27) is more than critical value; and hence, it can be concluded that there is significant agreement among the bank official and financial experts (respondents) towards the suggestion that easy availability of Exchange Traded Products to SMEs/ small corporates may be helpful in their managing foreign currency risks (Table 5.38).

5.17.4 Decisions for hedging should be quick and based on proper strategy

Experts reveal that managerial perception of forex risk is the key hedging determinant. In any organisation, risk management activities are primarily centralized. Most of the top brass, senior management of SMEs, who are responsible to stakeholders use their experiences and common sense to determine their hedging strategies. With their compartmentalized view about FCEs risks, they keep themselves within the bounds of ensuring sufficient liquidity for the firm. They fail to understand why currency risk reduces firm value or even manage risk when it is unnecessary.

The results indicate that 65% of respondents agreed that one of the major reason for mismanagement of FCE risks by SMEs/ small corporates is poor or centralised decision making process and the relationship is significant as the $\chi 2$ value (5.40) is more than critical

value. Hence, it can be concluded that there is significant agreement among the bank official and financial experts (respondents) towards the suggestion that decisions for hedging should be quick and based on proper strategy by the SMEs/ corporates (Table 5.38).

5.17.5 Structured/ complex derivatives products should be avoided

The results indicate that 97.67% of respondents agreed that inclination for structured/ complex derivatives products should be avoided by SMEs/ corporates. Relationship is significant as the $\chi 2$ value (4.27) is more than critical value. Hence, it can be concluded that there is significant agreement among the bank official and financial experts (respondents) towards the suggestion that SMEs/Corporates should keep themselves away from structured/ complex derivatives products until they possess adequate skill and knowledge about the products (Table 5.38).

5.17.6 SMEs should outsource professional and advisory services to take care of their foreign currency risk management

Industry people share that most of the SMEs , small corporates depends upon the internet, newspapers, TV channels, financial publications for obtaining information about the forex markets trading, development of exchange rate forecasts etc. whereas they should either have in-house skill powerhouse or outsource the professional for the job.

The survey results indicate that 78.33% of respondents agreed that SMEs should outsource professional and advisory services to take care of their foreign currency risk management challenges. The relationship is significant as the $\chi 2$ value (19.27) is more than critical value; and hence, it can be concluded that there is significant agreement among the bank official and financial experts (respondents) towards the suggestion that outsourcing professional and advisory services by SMEs/ small corporates may be helpful in managing their foreign currency risk management (Table 5.38).

5.17.7 SMEs should prepare and adhere to a policy document on foreign currency risk management.

McCarthy (1999) share that SMEs, just like their multinational counterparts, must have a policy in place. With proper policy guidelines in place, the SMEs/ corporates can actively monitor the risk of loss and take appropriate decision to minimize losses by initiating appropriate steps in time, including taking counter positions using hedges. However, Maniar (2016) shares that most firms find it difficult to establish a foreign exchange management policy. Experts suggest that senior officials/ top management/board of the entity needs to ensure that the concerned staff adhere to the policy guidelines meticulously. One of the senior bank official advises

"…….exporters should have a clear-cut risk policy in place and hedge their risks. They should not indulge in speculation."

The results indicate that 80% of respondents agreed that SMEs should prepare and adhere to a policy document on foreign currency risk management. The relationship is significant as the $\chi 2$ value (21.60) is more than critical value and it can be concluded that there is significant agreement among the bank official and financial experts (respondents) towards the suggestion that preparing and adhering to a policy document on foreign currency risk management may be helpful to SMEs/ corporates in their FCRM efforts (Table 5.38).

5.17.8 SME should try to pass pricing fluctuations on to customers by entering price variance clauses

The results indicate that 68.33% of respondents agreed that one of the ways to manage FCE risks by SMEs/ corporates is to pass pricing fluctuations on to customers by entering price variance clauses in their agreement. The relationship is significant as the $\chi 2$ value

(8.07) is more than critical value and hence, it can be concluded that there is significant agreement among the bank official and financial experts (respondents) towards the suggestion that passing price fluctuations on to customers by entering price variance clauses may be helpful to SMEs/ corporates in their FCRM efforts (Table 5.38).

Table 5-38 Perceptions of Bank Officials, FEs on managing FCE Risks

Sl. No	Causes	Yes	No	Total	% Yes	% No	Calcu-lated $\chi 2$ value	Criti-cal $\chi 2$ value	Remarks
1	Government should provide tax, non -tax based incentives to export oriented SMEs, particularly in case of appreciation in INR	47	13	60	78.33	21.67	19.27	3.84	Significant
2	Government should make hedging instruments cheaper and user friendly	49	11	60	81.67	18.33	24.07	3.84	Significant
3	Easy availability of Exchange Traded Products	47	13	60	78.33	21.67	19.27	3.84	Significant
4	Decisions for hedging should be quick and based on proper strategy	21	39	60	65.00	35.00	5.40	3.84	Significant
5	Structured/ complex derivatives products should be avoided	58	2	60	97.67	2.33	4.27	3.84	Significant
6	SMEs should outsource professional and advisory services to take care of their foreign currency risk management	43	17	60	78.33	21.67	19.27	3.84	Significant

7	SMEs should prepare and adhere to a policy document on foreign currency risk management.	48	12	60	80.00	20.00	21.60	3.84	Significant
8	SME should try to pass pricing fluctuations on to customers by entering price variance clauses	41	19	60	68.33	31.67	8.07	3.84	Significant
Source: Own computation									

6. Chapter- Summary and Conclusion

6.1 Introduction

Derby (2014) state that while undertaking international business and services activities, both importers and exporters face two big baskets of risks. The first is business and economic risk and the second is market risk i.e. risks arising, inter-alia, from volatilities in foreign currency exposures etc. From the basket of business and economic risks, exporters and importer both suffer from country risk and commodity risk.

Kula (2005) states that risk from foreign currency exposure is an inherent risk for any export or import firm, irrespective of their size. McCarthy (1999), Choi (2012) add that SMEs/ small entities tend to be more vulnerable to foreign-exchange fluctuations, as they have fewer risk-hedging abilities than their counterpart large enterprises. Gibson et al. (2008) add that SMEs/ small corporates often lack sophistication to deal with foreign exchange exposure arising from their overseas business activities and find themselves sometimes at risk in volatile markets. Over the years, Indian SMEs/ corporates have been putting together strategies and processes diligently and largely successfully to deal with business and economic risks. However, they have found themselves unable in dealing effectively with risks arising from currency fluctuations. Volatility in foreign currency exposure, currency fluctuations have directly impact their bottom line. Especially, adverse currency fluctuations which not only impact their profitability but also operating efficiencies. With weaker capital base and tighter budgets than their counterpart larger firms, SMEs get more affected from adverse currency fluctuations. Adverse currency movements not only impact their balance sheet but also jeopardise their commercial strategy for international trading activities. Negative currency fluctuations also impact their bottom-line on making provisions on the items in FCE maturing or having cash flows over the period of next five years in compliance with the relevant Indian Accounting Standards.

6.2 Problem Statement and Justification

SMEs and small corporates are more vulnerable to foreign exchange risk, and knowledge of this field is not much as most of the previous studies have been concentrated on large firms. The established theory base provides a great depth of knowledge in this field; however, it focuses on large, established and multinationals firms. Literature on SMEs/ small corporates' studies on foreign currency exposure risks from the bankers' point of view have been found to be rare.

Effects of foreign currency exposure vis-à-vis adverse currency fluctuations are grave on the performance of SMEs especially to those who prefer to keep their exposure unhedged. Their undesired efforts pose significant risks not only to themselves but to their banks and overall financial system also. This study explores various factors and variables of FCE Risks of SMEs, from bankers' point of view including relevant theoretical concepts and empirical applicability. This study also discusses in detail the impact of undhedged exposure of SMEs/ corporates.

6.3 Objectives

Keeping in view the research questions and in order to achieve the overall objectives of the research to study the management of the quality of assets of Indian banks, this study was undertaken with various objectives, detailed elsewhere in the study. Primarily study covers the issues related to Service Delivery mechanism of the Banks, Identification, awareness, assessment, measurement and management of FCE Risks from Exporters'/ importers' point of view, strategies used to manage the exposure, risks attached with various hedging strategies, techniques, products, risks attached with UFCE of Corporates/ SMEs and its impact on Banks etc.

6.4 Methodology

Both primary and secondary data were used to establish linkages for analysis between

independent, dependent variables and foreign currency exposure risks, and also to achieve other objectives of the study. The secondary data was collected from the websites of MSME Department, GoI, FICCI, ASOCHEM, RBI and CCIL on the population of SMEs and SCBs. Data was also obtained from various published sources on the population of SMEs & SCBs from reports of RBI, Indian Bankers Association (IBA), RBI website, etc. To collect primary data, a survey was conducted by means of a structured questionnaire, to ascertain the opinion of bankers and professionals connected with the financial services industry, like CAs, MBAs etc. The sampling technique used was purposive and convenience sampling approach. The sample comprised of 86 SMEs, small corporates and 60 bakers and finance experts. The various hypotheses tested and the results are furnished in the tables and the key findings are discussed further in the document.

6.5 Key Findings

Key findings of this study are summarized in the following three tables/para:

In the first Table 6.1 summary of various FCE risk constructs, events, concerns, categories (regulatory requirements/ operational risk/ credit risk) risk severity (high risk/ medium risk/ law risk) arising from various business activities, banking products, hedging strategies from the point of view of SMEs, small corporates as well as bankers have been delineated.

In the second Table 6.2, summary of hypotheses, their statistical inferences have been presented. And lastly major findings from the survey, interviews, and suggestions have been summarised under para, 'Key Findings'.

6.5.1 Summary of various FCE risk Category and Severity

Table 6-1 Summary of various FCE risk Category and Severity

Item/ Product	Constructs/ Events	Concerns/ Risks	Requirements/ Risks Category	Regulatory Requirements	Operational Risk	Credit Risk	Risk Severity
Pre-Shipment Finance	Merchant Trade Transactions requirements- Obtaining KYC details-	Ensuring that KYC formalities including Risk Categorisation as prescribed by RBI has been completed in all respects and due diligence has been exercised.	Regulatory Requirements/ Operational Risk	√	√		High
Pre-Shipment Finance	Transactions requirements - FEMA declaration	Compliance with the FEMA guidelines on Trade credits for exporter	Regulatory Requirements/ Operational Risk	√	√		High
Pre-Shipment Finance	Merchant Trade Transactions requirements- Permission of goods as per Foreign Trade Policy (FTP)	Ensuring goods involved in the transactions are permitted for export under the prevailing Foreign Trade Policy (FTP) as on the date of shipment and all the rules, regulations and directions applicable to export (except Export Declaration Form) are complied with.	Regulatory Requirements/ Operational Risk	√	√		High

Item/ Product	Constructs/ Events	Concerns/ Risks	Requirements/ Risks Category	Regulatory Requirements	Operational Risk	Credit Risk	Risk Severity
Pre-Shipment Finance	Declaration on Merchant Trade Transactions	Declaration by the exporter with respect to details of purchase order/ contract of services to be offered.	Regulatory Requirements/ Operational Risk	√	√		High
Pre-Shipment Finance	Merchant Trade Transactions requirements	Obtaining opinion reports on buyers for ensuring safety of export proceeds realisation (for the facilities extending beyond prescribed limit).	Regulatory Requirements/ Operational Risk/ Credit Risk	√	√	√	High
Pre-Shipment Finance	Declaration on Merchant Trade Transactions	Undertaking by the exporter that credit facilities have not been availed from any other Bank against the subject purchase order/ contract of services.	Regulatory Requirements/ Operational Risk	√	√		High
Pre-Shipment Finance	End use credit facilities extended	Ensuring proper end use of the funds, allowed at concessional rates of interest and for meeting specific purpose of export. (with respect to concessional interest and DDB facility)	Regulatory Requirements/ Operational Risk	√	√		High
Pre-Shipment	Disbursement of credit	Disbursing credit facilities as per the terms of conditions of purchase	Regulatory Requirements/	√	√	√	High

Item/ Product	Constructs/ Events	Concerns/ Risks	Requirements/ Risks Category	Regulatory Requirements	Operational Risk	Credit Risk	Risk Severity
Finance	facilities extended	order/ LC or the requirements of the importer. (for the facilities extending beyond the prescribed limit)	Operational Risk/ Credit Risk				
Pre-Shipment Finance	Merchant Trade Transactions requirements	Adherence to time schedule and quality for supply of goods/ services as per contracts' terms, failing which the entire consignment may be rejected or order may be cancelled.	Operational Risk/ Credit Risk		√	√	High
Pre-Shipment Finance	Merchant Trade Transactions requirements	Exporter submitting certificate issued by Inspection Council of India, certifying goods/services fit for export.	Regulatory Requirements/ Operational Risk	√	√		High
Pre-Shipment Finance	Merchant Trade Transactions requirements-Submission of documents	Ensuring authenticity of shipping bill, primarily with respect to no diversion of funds	Operational Risk/ Credit Risk		√	√	High
Pre-Shipment	Merchant Trade	As per extant instructions, shipping documents should be submitted to	Operational Risk/ Credit Risk		√	√	High

Item/ Product	Constructs/ Events	Concerns/ Risks	Requirements/ Risks Category	Regulatory Requirements	Operational Risk	Credit Risk	Risk Severity
Finance	Transactions requirements- Submission of documents	the Bank by the exporter within 21 days after shipment. In case of delay, exporter need to give proper reason and banks to satisfy themselves with respect to end use of funds and credit risk					
Pre-Shipment Finance	Merchant Trade Transactions requirements	Obtaining ECGC Coverage for political and commercial risks.	Operational Risk/ Credit Risk		√	√	High
Credit Facilities for Import Purposes	Merchant Trade Transactions Requirements- Obtaining KYC details-	Ensuring that KYC formalities including Risk Categorisation as prescribed by RBI has been completed in all respects and due diligence has been exercised.	Regulatory Requirements/ Operational Risk	√	√		High
Credit Facilities for Import Purposes	Merchant Trade Transactions requirements - FEMA	Compliance with the FEMA guidelines on Trade credits for imports.	Regulatory Requirements/ Operational Risk	√	√		High

Item/ Product	Constructs/ Events	Concerns/ Risks	Requirements/ Risks Category	Regulatory Requirements	Operational Risk	Credit Risk	Risk Severity
	declaration						
Credit Facilities for Import Purposes	Merchant Trade Transactions requirements-	Ensuring that importing entity does not maintain multiple current accounts	Regulatory Requirements/ Operational Risk	√	√		High
Credit Facilities for Import Purposes	Merchant Trade Transactions requirements-	Ensuring goods involved in the transactions are permitted for import under the prevailing Foreign Trade Policy (FTP) as on the date of shipment and all the rules, regulations and directions applicable to import (except Bill of Entry) are complied with.	Regulatory Requirements/ Operational Risk	√	√		High
Credit Facilities for Import Purposes	Merchant Trade Transactions requirements-	Ensuring that imports under negative list have been made through proper import licence	Regulatory Requirements/ Operational Risk	√	√		High
Credit Facilities for Import Purposes	Merchant Trade Transactions requirements-	Concerned bank to verify about the documents like invoice, packing list, transport documents and insurance documents and satisfy itself about the genuineness of the trade.	Regulatory Requirements/ Operational Risk	√	√		High

Item/ Product	Constructs/ Events	Concerns/ Risks	Requirements/ Risks Category	Regulatory Requirements	Operational Risk	Credit Risk	Risk Severity
Credit Facilities for Import Purposes	Merchant Trade Transactions-routing of transactions	Ensuring that both the legs of a Merchant trade transaction are routed through the same AD/ Bank.	Regulatory Requirements/ Operational Risk	√	√		High
Credit Facilities for Import Purposes	Merchant Trade Transactions-time frame	Ensuring that entire Merchant trade transactions are completed within an overall period of nine months and no outlay of foreign exchange is observed beyond four months.	Regulatory Requirements/ Operational Risk	√	√		High
Credit Facilities for Import Purposes	Merchant Trade Transactions-Opening of LC	Ensuring that at the time of opening of L/Cs, various FEMA guidelines, EXIM policy guidelines/ UCPDC 600 / FEDAI/ ISP98/ Uniform Rules for Bank to Bank Reimbursements are complied with.	Regulatory Requirements/ Operational Risk	√	√		High
Credit Facilities for Import Purposes	Merchant Trade Transactions requirements-	Ensuring that in terms of extant regulations, remittances against imports are to be made in not later than six months from the date of	Regulatory Requirements/ Operational Risk	√	√		High

Item/ Product	Constructs/ Events	Concerns/ Risks	Requirements/ Risks Category	Regulatory Requirements	Operational Risk	Credit Risk	Risk Severity
	Remittance	shipment, except in cases where amounts are withheld towards guarantee of performance, etc.					
Credit Facilities for Import Purposes	Merchant Trade Transactions requirements-Submission of Returns	Various returns are forwarded to RBI in time and when there is no transaction in a particular period, a Nil Return is submitted.	Regulatory Requirements/ Operational Risk	√	√		High
Post-Shipment Finance	Liquidation of pre-shipment finance	Pre-shipment credit should be liquidated from the proceeds of relevant purchased/ discounted/ negotiated export bill.	Regulatory Requirements/ Operational Risk	√	√		High
Post-Shipment Finance	Merchant Trade Transactions requirements-Submission of documents	In case of despatch of original documents directly by the exporter to foreign buyer, RBI directives specify that only government recognized export houses are eligible for sending original documents directly to foreign buyer.	Regulatory Requirements/ Operational Risk/ Credit Risk	√	√	√	High
Post-	Merchant	Ensuring in case if a particular	Regulatory	√	√		Medium

Item/ Product	Constructs/ Events	Concerns/ Risks	Requirements/ Risks Category	Regulatory Requirements	Operational Risk	Credit Risk	Risk Severity
Shipment Finance	Trade Transactions requirements- Receipt of Advance Payment and Cancellation of Export bill	order/ export bill against which advance payment has been received, is cancelled. Then the outstanding would be liquidated with the proceeds of any other export bill drawn on some other importer either in the same country or in any other country.	Requirements/ Operational Risk				
Post-Shipment Finance	Merchant Trade Transactions requirements- Receipt of Goods by the buyer	In terms of RBI guidelines, export proceeds should be received within the prescribed time limit (presently-180 days). However, at times, buyers deliberately refuse to accept and pay for goods after shipment by twisting the terms of contract, raise disputes and demand discounts.	Operational Risk/ Credit Risk		√	√	Medium
Post-Shipment Finance	Merchant Trade Transactions requirements- Receipt of	With regard to receipt of any part payment/ advance payment, exporter is required to furnish complete details along with documentary evidence to the Bank	Operational Risk/ Credit Risk		√	√	Medium

Item/ Product	Constructs/ Events	Concerns/ Risks	Requirements/ Risks Category	Regulatory Requirements	Operational Risk	Credit Risk	Risk Severity
	export proceeds						
Risks attached with Contracted Exposure	Evidencing Underlying Exposure	Banks to establish existence of Underlying Exposure through evidencing the documents of underlying assets	Regulatory Requirements/ Operational Risk	√	√		High
Risks attached with Contracted Exposure	Evidencing Underlying Exposure	Where original documents pertaining to the exposure cannot be obtained, copies duly certified by the authorized signatory of the company should be obtained and kept on record.	Regulatory Requirements/ Operational Risk	√	√		High
Risks attached with Contracted Exposure	Declaration with respect to exposure	Before booking contract, banks are required to obtain an undertaking from the corporates that the same underlying exposure has not been covered with any other AD/ bank.	Regulatory Requirements/ Operational Risk	√	√		High
Risks attached with Contracted	Declaration with respect to exposure	Where hedging of the same exposure is undertaken in parts with more than one Bank, details of such amounts already booked with	Regulatory Requirements/ Operational Risk	√	√		High

Item/ Product	Constructs/ Events	Concerns/ Risks	Requirements/ Risks Category	Regulatory Requirements	Operational Risk	Credit Risk	Risk Severity
Exposure		the other bank should be clearly indicated in the declaration.					
Risks attached with Contracted Exposure	Declaration with respect to exposure	Customers are also required to furnish a certificate from their statutory auditor of the borrower that contracts outstanding at any point of time during the quarter did not exceed value of underlying exposures.	Regulatory Requirements/ Operational Risk	√	√		High
Risks attached with Contracted Exposure	Contracts features- submission of documents	Corporates/ SMEs are required to furnish documents for underlying exposure within 15 days. They need to be advised that non-submission may entail cancellation of the contracts booked and gains, if any, will not be passed on.	Regulatory Requirements/ Operational Risk	√	√		High
Risks attached with Contracted Exposure	Contracts features- submission of documents	If the borrower commits defaults in non -submission of documents with in the specific 15 days for more than three times in a financial year, this 15-days facility may be withdrawn and booking of contract will made	Regulatory Requirements/ Operational Risk	√	√		High

Item/ Product	Constructs/ Events	Concerns/ Risks	Requirements/ Risks Category	Regulatory Requirements	Operational Risk	Credit Risk	Risk Severity
		by the banks only after production of underlying documents					
Risks attached with Probable Exposures	Probable Exposures based on Past Performance	Forward Contracts, Cross Currency Options (Non-INR) Foreign Currency –INR Options Cost Reduction Structures	Regulatory Requirements/ Operational Risk/ Credit risk	√	√	√	High
Risks attached with Probable Exposures	Eligible Notional Exposure	Average of last three years turnover or last year's turnover, whichever is higher	Regulatory Requirements/ Credit risk	√		√	High
Risks attached with Probable Exposures	Eligible Limits	The forward contracts booked in the aggregate during the year and outstanding at any point of time should not exceed the eligible limits	Regulatory Requirements/ Operational Risk/ Credit risk	√	√	√	High
Risks attached with Probable Exposures	Contracts features	Contracts booked more than 75% of eligible limit will be on deliverable basis and cannot be cancelled implying that in the event of cancellation, the exporter /	Regulatory Requirements/ Operational Risk	√	√		High

Item/ Product	Constructs/ Events	Concerns/ Risks	Requirements/ Risks Category	Regulatory Requirements	Operational Risk	Credit Risk	Risk Severity
		importer shall have to bear the loss but will not be entitled to receive the gains.					
Risks attached with Probable Exposures	Contracts features	If outstanding Forward Contracts are higher than 50% of the limit, importer is required to furnish a CA certificate to the Bank that all guidelines are adhered to.	Regulatory Requirements/ Operational Risk	√	√		High
Risks attached with Probable Exposures	Declaration with respect to maturity of contract	Importers and exporters should furnish an undertaking to provide documentary evidence before the maturity	Regulatory Requirements/ Operational Risk	√	√		High
Risks attached with Probable Exposures	Declaration with respect to amount booked with other Banks/ ADs	Importers and exporters should furnish declaration regarding amounts booked with other ADs.	Regulatory Requirements/ Operational Risk	√	√		High
Forward Contract	Risks attached with cancellation	Though RBI has allowed freely cancellation and rebooking of all forward contracts with residual	Regulatory Requirements/ Operational Risk	√	√		High

Item/ Product	Constructs/ Events	Concerns/ Risks	Requirements/ Risks Category	Regulatory Requirements	Operational Risk	Credit Risk	Risk Severity
	and rebooking of forward contracts	maturity of one year and less. However, all non-INR forward contracts are rebooked on cancellation only in cases where the corporate has submitted the exposure information as prescribed by RBI					
Forward Contract	Cancellation of contract	Contracts booked in excess of 75 percent of the eligible limit shall be on a deliverable basis and cannot be cancelled. That is, in the event of cancellation, the exporter/importer shall have to bear the loss but will not be entitled for any gain.	Regulatory Requirements/ Operational Risk	√	√		High
Forward Contract	Contract for Advance Remittance against Exports.	ADs/ Banks have to ensure that forward contracts are not booked for Advance Remittance against Exports.	Regulatory Requirements/ Operational Risk	√	√		High
Options	Risks attached with booking and	The purchaser of an OTC option remains in bit more comfortable position than its counterpart	Regulatory Requirements/ Operational Risk	√	√		High

Item/ Product	Constructs/ Events	Concerns/ Risks	Requirements/ Risks Category	Regulatory Requirements	Operational Risk	Credit Risk	Risk Severity
	cancellation of contract	forward contract buyer/seller, when he is able to offset or exercise the option or allow the option position to expire. If the purchased option expires worthless, he may suffer a total loss of his investment i.e. option premium paid plus transaction costs.					
Options	Risks attached with settlement of contract	Although the premium received by the option seller is fixed, the seller may sustain loss well more than the premium. If market moves unfavourably, the option seller may be liable for additional margin to maintain. The seller will also be required to settle the option transactions in cash.	Regulatory Requirements/ Operational Risk	√	√		High
Options	Cost attached and fear of incurring loss	For instance, an importer fears that the rupee could depreciate sharply by March 18, say, below INR 70 against the dollar If an option contract is available at, say, 68.5 for	Operational Risk/ Credit Risk		√	√	High

Item/ Product	Constructs/ Events	Concerns/ Risks	Requirements/ Risks Category	Regulatory Requirements	Operational Risk	Credit Risk	Risk Severity
		December, the importer can buy a call at 68.5 and hedge himself against a sharp fall in the rupee. However, if rupee appreciates to, say, 63 by March 18, which is contrary to the earlier expectations, the importer need not execute the option and instead buy from spot market to meet his obligation.					
Options	Cost attached and fear of incurring loss	However, like forwards, premium charged in option contracts, brokerage and other exchange related charges are to be paid upfront which increases the cost of hedging for the buyer/seller.	Operational Risk/ Credit Risk		√	√	High
Covered Options	Banks to obtain Internal Approval from their Board etc.	Banks may undertake covered options transactions on behalf of their constituents only after obtaining specific approval in this regard from their competent authority, i.e. their Board, Risk	Regulatory Requirements/ Operational Risk	√	√		High

Item/ Product	Constructs/ Events	Concerns/ Risks	Requirements/ Risks Category	Regulatory Requirements	Operational Risk	Credit Risk	Risk Severity
		Committee, etc.					
Covered Options	Capital and provisioning requirements	As per RBI guidelines, banks are required to treat exposures against covered options as an 'unhedged exposure' and accordingly need to comply with the guidelines on Capital and Provisioning Requirements for Exposures to entities with Unhedged Foreign Currency Exposure.	Regulatory Requirements/ Operational Risk	√	√		High
Covered Options	Accounting Implications for the Corporates	Covered options generally do not qualify for hedge accounting under Indian Accounting Standard (Ind AS) 109 for Financial Instruments. Covered options are normally recognised at their fair value with changes in fair value recognised through the statement of profit and loss by the issuing companies, under current accounting principles as well as under Ind AS. Under present accounting principles,	Regulatory Requirements/ Operational Risk	√	√		High

Item/ Product	Constructs/ Events	Concerns/ Risks	Requirements/ Risks Category	Regulatory Requirements	Operational Risk	Credit Risk	Risk Severity
		European call or put options are also not generally capable of being treated as hedging instruments. In the backdrop, if a derivative contract does not meet the required criteria and is not classified as a hedging instrument, it will be measured at fair value and changes in fair value will be recognized immediately in the statement of profit and loss.					
Futures Contracts	Cash Flow Risk	Hedging has an opportunity cost. For example, using futures, markets replaces foreign exchange risk by cash-flow risk as margin money varies.	Regulatory Requirements/ Operational Risk	√	√		High
Futures Contracts	Leverage	One of the chief risks associated with futures trading comes from the inherent feature of leverage. Lack of respect for leverage and the risks associated with it is often the most common cause for losses in	Regulatory Requirements/ Operational Risk/ Credit Risk	√	√	√	High

Item/ Product	Constructs/ Events	Concerns/ Risks	Requirements/ Risks Category	Regulatory Requirements	Operational Risk	Credit Risk	Risk Severity
		futures trading. Exchange sets margins at levels which are deemed appropriate for managing risks at clearinghouse level. This is the minimum level of margins required by the exchange and provides maximum leverage. For example, if the initial margin for currency futures is 2.5%, it implied 40 times leverage. In other words, an investor/ trader can take a position equivalent to INR 1 lac by only depositing Rs. 2,500 in his or her account. Clearly, this represents great amount of leverage which is defined as the ability to take large exposures with little upfront cost.					
Futures Contracts	Interest Rate Risk	The risk that an investment's value will change due to a change in the absolute level of interest rates. Normally, rise in interest rates during the investment period may	Regulatory Requirements/ Operational Risk	√	√		High

Item/ Product	Constructs/ Events	Concerns/ Risks	Requirements/ Risks Category	Regulatory Requirements	Operational Risk	Credit Risk	Risk Severity
		result in reduced prices of the held securities.					
Futures Contracts	Liquidity Risk	Liquidity risk is an important factor in trading. Level of liquidity in a contract can impact the decision to trade or not. Even if an investor/ trader arrives at a strong trading view, he may not be able to execute the strategy due to lack of liquidity. There may not be enough opposite interest in the market at the right price to initiate a trade. Even if a trade is executed, there is always a risk that it can become difficult or costly to exit from positions in illiquid contracts.	Operational Risk/ Credit Risk		√	√	High
Futures Contracts	Settlement and Delivery Risk	All executed trades need to be settled and closed at some point. Daily settlement takes the form of automatic debits and credits between accounts with any shortfalls being recovered through	Operational Risk/ Credit Risk		√	√	Medium

Item/ Product	Constructs/ Events	Concerns/ Risks	Requirements/ Risks Category	Regulatory Requirements	Operational Risk	Credit Risk	Risk Severity
		margin calls. In cases where an investor fails to pay margin calls, exchange/ brokers take preventive steps to close their positions. Similarly, the risk of non-delivery is substantial for physically delivered contracts. Brokers need to ensure that they allow only those clients access to trade deliverable contracts till maturity who have the capacity and ability to make good on delivery obligations.					

6.5.2 Summary of Hypothesis

Table 6-2 Summary of various FCE risk Category and Severity

Constructs	Segment	Perception of SMEs/ Corp/Bankers/ FEs on		Hypotheses	Observations	Results	Inference
Perception	Risk Awareness	Country Risks	HO1	There is no significant agreement among the SMEs/ Corporates (respondents) in the ranking of different causes of Country Risks with respect to FCE Risks.	Significant	Rejected	SMEs/ Corporates are aware of Country Risks of their business and economic activities
	Risk Identification	Commodity Risks	HO2	There is no significant agreement among the SMEs/ Corporates (respondents) in the ranking of different causes of Commodity Risks with respect to FCE Risks.	Significant	Rejected	SMEs/ Corporates are aware of Commodity Risks of their business and economic activities
Causes	Risk Assessment	Causes for FCE Risks	HO3	There is no significant agreement among the Bankers/ Finance Experts (respondents)	Significant	Rejected	SMEs/ Corporates are aware of causes of FCE Risks

Constructs	Segment	Perception of SMEs/ Corp/Bankers/ FEs on		Hypotheses	Observations	Results	Inference
				in the ranking of different causes of FCE Risks.			
Mitigation	Risk Measurement	Measurement of FCE Risks- (When)	HO4	There is no significant agreement among the SMEs/ Corporates (respondents) in the ranking of different causes for assessment (When) of FCE Risks	Significant	Rejected	SMEs/ Corporates assess and measure FCE Risks at appropriate time intervals and with different perspectives
	Risk Measurement	Measurement of FCE Risks- (Why)	HO5	There is no significant agreement among the SMEs/ Corporates (respondents) in the ranking of different causes for assessment (Why) of FCE Risks	Significant	Rejected	SMEs/ Corporates assess and measure FCE Risks under various perspectives
	Risk Measurement	Not Adopting Hedging Strategies	HO6	There is no significant agreement among the SMEs/ Corporates (respondents) in the ranking of different causes	Significant	Rejected	SMEs/ Corporates do not adopt hedging strategies because of various

Constructs	Segment	Perception of SMEs/ Corp/Bankers/ FEs on		Hypotheses	Observations	Results	Inference
				for not adopting hedging strategies			reasons
	Risk Measurement	Internal Hedging Strategies	HO7	There is no significant agreement among the respondents SMEs/ corporates in the ranking of awareness/use of Foreign Currency Risk Internal Hedging Techniques / products by SMEs/ corporates.	Significant	Rejected	SMEs/ Corporates adopt internal hedging strategies under different circumstances
	Risk Measurement	External Hedging Strategies	HO8	There is no significant agreement among the respondents SMEs/ corporates in the ranking of awareness/use of Foreign Currency Risk External Hedging Techniques / products by SMEs/ corporates.	Significant	Rejected	SMEs/ Corporates adopt external hedging strategies under different circumstances

Constructs	Segment	Perception of SMEs/ Corp/Bankers/ FEs on		Hypotheses	Observations	Results	Inference
Impact	Suggestions	Suggestions for FCE Risks Management	HO9	There is no significant agreement among the SMEs/ Corporates (respondents) in the ranking of suggestions for improving management of Risks from Foreign Currency Exposure of SMEs/ Corporates	Significant	Rejected	SMEs/ Corporates expect support from different agencies for improving their FCE risk management
Perception	Risk Assessment	Causes for FCE Risks emerging from Business & Economic Activities	HO1	There is no significant agreement among the Bankers/ Finance Experts (respondents) in the ranking of different causes of FCE Risks.	significant	Rejected	SMEs/ Corporates are aware of FCE Risks arising from their business and economic activities
	Risk Assessment	Causes for FCE Risks emerging from Business & Economic Activities	HO2	There is no significant agreement among the Bankers/ Finance Experts (respondents) in the ranking of different causes of FCE Risks as Per Length of Experience of Bankers/ Finance Experts	significant	Rejected	SMEs/ Corporates are aware of different causes of FCE Risks arising from their business and economic activities

Constructs	Segment	Perception of SMEs/ Corp/Bankers/ FEs on		Hypotheses	Observations	Results	Inference
Causes	Risk Measurement (Degree of Risk/ Category)	Reasons for non-adoption of Hedging strategies by SMEs/ Corporates	HO3	There is no significant agreement among the Bankers/ Finance Experts (respondents) in the ranking of reasons for non-adoption of Hedging strategies by SMEs/ Corporates	significant	Rejected	SMEs/ Corporates do not adopt hedging strategies because of various reasons
Mitigation	Risk Management - Hedging Strategies and Techniques	Reasons for Adopting Internal Hedging strategies by SMEs/ Corporates	HO4	There is no significant agreement among the Bankers/ Finance Experts (respondents) in the ranking of awareness/use of Foreign Currency Risk Internal Hedging Techniques / Products by SMEs/ corporates.	significant	Rejected	SMEs/ Corporates adopt internal hedging strategies under different circumstances
	Risk Management - Hedging Strategies and Techniques	Reasons for Adopting External Hedging strategies by SMEs/ Corporates	HO5	There is no significant agreement among the Bankers/ Finance Experts (respondents) in the ranking of awareness/use of Foreign Currency Risk External Hedging Techniques / Products by SMEs/ corporates.	significant	Rejected	SMEs/ Corporates adopt external hedging strategies under different circumstances

Constructs	Segment	Perception of SMEs/ Corp/Bankers/ FEs on		Hypotheses	Observations	Results	Inference
Impact	Unhedging	Reasons behind UFCE of SMEs/ Corporates	HO6	There is no significant agreement among the Bankers/ Finance Experts (respondents)in the ranking of different reasons behind UFCE of SMEs/ Corporates	significant	Rejected	Banks face risk of incremental provisions and capital requirements due to unhedged exposure of their borrower clients
	Suggestions	Suggestions for managing FCE Risks of SMEs/ Corporates	HO7	There is no significant agreement among the Bankers/ Finance Experts (respondents) in the ranking of suggestions for managing Risks from Foreign Currency Exposure of SMEs/ Corporates	significant	Rejected	Bankers/ Financial Experts suggestions to improve FCE Risks of SMEs/ corporates

6.6 Key Findings

Respondents SMEs/ corporates are aware about the risks affecting their buying or selling price.

- Participants observed that non-availability of adequate hedging products from the banks, unfamiliarity or less familiarity with the external hedging techniques/ instruments were the important reasons for not adhering to hedging techniques/ strategies by the SMEs.
- Respondents SMEs/ corporates considered forward contracts as most satisfying external hedging tool in managing their risks from their foreign currency exposure. Respondents shared that cancellation and rebooking facilities are the most satisfying aspects of forward contracts however, the banking and other cost associated attached were the reasons for opting out.
- Usage of various internal hedging techniques such as changing the product-market combination, relocating manufacturing establishments, changing the input source etc. were found to near impossible on ground reality for the SMEs/ corporates of limited magnitudes.
- Many SMEs / corporates do not perceive currency risks as an important risk to consider and prefer to keep major portion of their exposures unhedged, wishfully feeling that in case of currency fluctuations losses they could absorb themselves.
- Most of the respondents SMEs/ corporates do not have advantage of natural hedge by their export proceedings whereby their currency risks on imports can be set off.
- Most of the respondents SMEs/ corporates do not often have enough resources and organisational structure to manage their foreign currency exposure risks. At times, they fail to anticipate the market loss and face survival problems.
- Many respondents SMEs were found not well-equipped in using exchange traded currency and interest rate risks hedging instruments.
- Most of the respondents SMEs were found to have a clear strategy for hedging currency risk given the availability of resources and capability to face such challenges as well.
- Most of the respondents SMEs/ corporates were found increasingly keeping their

foreign currency exposure unhedged, deterred by the high cost of hedging and lulled into complacence by the rupee's relative stability in recent months.

- Experts believe that while managing their currency exposure, the foremost objective of the entities should be minimising exchange losses followed by reducing volatility of the cash flows. Interestingly, for many respondents these were similar and there was no difference between these two objectives.
- Most of the participants suggested that banks in consultation with the trade and industry bodies should conduct forex awareness programmes on currency exposure management, especially for small corporates/ SMEs. Experts from financial services and banking industry were also of the view that lending institutions may conduct such programmes from time to time, at least for their borrowal clients in collaboration with the agencies like CII, FICCI, state level industrial bodies for reaching larger audiences.
- In wake of the exotic derivatives sold in the past by some of the private sector banks to their clients without explaining clearly the pros and cons of the same which resulted in considerable foreign exchange losses to them, many experts strongly feel opined that RBI should instruct the PSBs and PvtSBs to popularise various derivative products among their borrower customers well.
- Experts from finance industry contended that SEBI, CCIL, NSE and/ or any other government agency should develop a platform where the exchange rate forecasting data/ information should be collected and analysed to facilitate foreign currency exposure risk management to small corporates/ SMEs.
- Many stakeholders/ partners/ directors of the respondents SMEs/ corporates were found having a firm hold liking for using derivatives for profit speculation instead of risk management and value maximization of the organisation.
- Ownership concentration with respect to forex management decisions were found common in many respondents SMEs/ small corporates. The relevant operating

staff, handling day to day banking and other financial operations were found neither having authority nor any incentive for taking extra mile in reducing currency risks for their organisation. They are also not normally well-equipped to use any hedging instrument to hedge currency and interest rate risks. Many SMEs were found not having a clear strategy to hedge currency risk is much more important given the availability of resources as well as capability to face such challenges.

- Experts opine that It is very necessary for exporting SMEs to perceive clearly forex risk. A few industry experts observe that as against the earlier days when entities were run by inherited business acumen, social skills and experience, presently most of the SMEs/ corporates are managed by the people both from senior and young generations. While senior people possess lateral thinking and business acumen, young generation persons possess technical skills and professional qualifications.
- Experts contend that now the time has come when this generation of industry owners, directors, top and higher management persons have to understand themselves the relationship between currency issues and their effective management. They need to find a clear and accessible insight into foreign currency through books, keeping a hawk's eye on the market and also seeking professional advisories from time to time.
- Presently, foreign currency transactions are undertaken in following four different markets, Spot, Futures, Options and Other Derivatives (IRS, FRA etc.) markets. These markets function separately but are closely interconnected. Respondents strongly felt that the need of developing a separate foreign exchange market on the lines of share and money market, especially to meet SMEs/ small corporates' demands and expectations. Similarly, currency futures and options are presently traded in equity and commodity exchanges. There is also a need for separate currency exchange which caters to the needs of business enterprises, especially SMEs/ Corporates by offering derivative products for hedging purpose only.

- Industry experts also suggest that let a single regulator should regulate all derivative products offered to business enterprises while managing their currency exposure. Presently, the authority of two regulators, viz., RBI and SEBI overlaps in certain areas – for example, OTC derivatives are regulated by RBI where currency futures are regulated by SEBI. This gives rise to a regulatory overlap leading to conflicts since RBI permits derivatives only for the purpose of hedging a risk but not for speculative purposes. But currency futures give scope for speculation. Regulation of all the aspects of currency exposure management by one dedicated regulator addresses these issues.

6.7 Limitations

- Like all empirical studies, this thesis contains several limitations. Data and information collected through both the exploratory qualitative and the quantitative phase of this study were cross sectional in nature. While qualitative exploratory interviews provide some longitudinal data about forex risk management by exporting SMEs, data and information gathered through questionnaires merely present observations of a sample population on FCE risks management at a particular point of time.
- Given that constraints SMEs/ corporates face in using internal or/and external hedging techniques, this study cast a glance over SMEs' approach and tendency in using internal and external hedging strategies/ techniques. The study also tries to have a bird's eye view over major determinants influencing choice of selecting internal or external hedging techniques by SMEs. The study does not attempt to examine every single hedging technique. Nor does it examine in detail the effectiveness, efficiencies or the benefits of the hedging techniques that a firm use. The study makes a cursory view of identification, assessment, measurement and management of FCE risks of SMEs, major issues from bankers' point of view.
- Results of this study demonstrate that there are many reasons because of which

SMEs avoid hedging. Greed for making profit instead of maximising value through derivative hedging make external hedging techniques favourable to SMEs. However, it is questionable as to whether the use of more external hedging techniques brings more benefits than drawbacks for SMEs. In this backdrop our study lacks detailed discussions on the use of hedging techniques for efficient management of forex risk by SMEs.

6.8 Further Research

- As outlined in Chapters 1 and 2, little research on identification, assessment, measurement and management of FCE risks of SMEs/ corporates from bankers' point of view have been observed, hence a number of open questions and much potential for future research are bound to follow suit.
- Another potential future research area relates to investigating FCE risks of SMEs/ corporates in different contexts. Future studies may extend the sample on cross-selling, or mis-selling of various hedging products by the banks to their SMEs borrowers.
- Replication of this study in different part of the country, inter countries comparisons may provide a useful means to advance the generalisability of findings our study. For example, empirical data in both developing and developed countries may provide comparative results about FCE risks of SMEs/ corporates and their impact across different institutional environments.
- Further research on SMEs' forex risk management could be conducted from the perspective of decision making literature. Our study thesis sheds new light on SMEs' hedging practices by taking into account the ownership concentration aspects for forex related decision-making process, however, we do not take into consideration any cognitive capacity of decision makers e.g. their traits, abilities, knowledge corridors, networks etc. which impact their decisions relating to forex risk

management. Therefore, replication of our study from the perspective of causation and effectuation process in ownership concertation, risk aversion aspects of SMEs may break through the clouds of new horizon in decision making in foreign currency exposure risk management.

6.9 Conclusion

Summing up, our study results are expected to provide important contribution towards understanding the available strategies that can be used by small and medium entities to manage the risks associated with forex exposure. This study also gives insight on why they are used and how effective they are in managing the risks to SMEs/ corporates are exposed. It provides insights by applying perspectives that are relatively novel in this area, albeit from established theoretical streams – namely, the resource-based view and determinants of forex risk management by SMEs from bankers' point of view.

The results of the study can be used to assist other SMEs in the import and export market to formulate their own forex management strategy.

7. References

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Appendix- I

Questionnaire for Corporates/ SMEs

Please tick wherever necessary

Name and Address of Business Enterprise

Nature of ownership

Ownership of Enterprise	**Tick**
Proprietorship Firm	
Partnership Firm	
Unlisted Company/LLP	
Listed Company	
Others, Please specify……	

Sector

Sector	**Tick**
Handicrafts (Apparel)	
Readymade Garments	
Wool and Products	
Gems & Jewellery	
Marble	
Services	
Others, Please specify……	

Share of business activities

Activities	**Since No. of Years**
Export	
Import	
Both	
Others, Please specify……	

Sales and Revenue in Foreign Currency i.e. other than in INR

Sales		**Amount in crores**	**In % terms**
	Domestic		
	Export		
Revenues			
	Domestic		
	Export		

Major currency of your overseas operations

Currency	**Tick**
USD	
EURO	
JPY	
GBP	
Others, Please specify……	

Out of total foreign currency usage, approximate proportion of following currencies:

Currency	**Percentage Usage**
USD	
EURO	
JPY	
GBP	
Others, Please specify……	
	Total should be 100%

(I- A) Causes for Foreign Currency Exposure (FCE)

Please tick 'YES', if you agree and 'NO", if you disagree

***Country Risks* -FCE Risks arise mainly due to**		
1	Buyers/ Sellers Geographically separated	Yes (……) No (……)
2	Buyers/ Sellers Not known to each other	Yes (……) No (……)
3	Different legal and political systems	Yes (……) No (……)
4	Different languages, culture and religion	Yes (……) No (……)
5	Different currency areas	Yes (……) No (……)
6	Others, Please specify……	Yes (……) No (……)

Commodity Risk - FCE Risks arise in Not receiving the Goods		
1	As per Agreed Quantity	Yes (……) No (……)
2	As per Agreed Quality	Yes (……) No (……)
3	As per Terms of Delivery	Yes (……) No (……)
4	Properly Packed	Yes (……) No (……)
5	Others, Please specify……	Yes (……) No (……)

(I- A) Causes for FCE Risks emerging from Business & Economic Activities

Following are some of the opinion statements on FCE risks emerging from Business & Economic Activities. Please indicate your view in five-point response scale.

1 Volatility in Currency fluctuations

( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree

2 Volatility in clients' domestic currency

( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree

3 Change in Attitude of individual overseas customers

( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree

4 Interest rate fluctuations

( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree

5 Unawareness about the problems related currency exposure

( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree

6 Failure in identifying various Types of Exchange Rate Risks

( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree

7 Inadequate understanding of various hedging products, especially derivatives products

( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree

8 Poor Cash flow position of the firm and ability to withstand currency fluctuations

( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree

9 Non availability of proper user friendly hedging products/ mechanism

( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree

(I- B) Assessment of FCE Risks- *When* do you assess

	When there is ----------
1	Volatility in Currency fluctuations **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**
2	Volatility in clients' domestic currency **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**
3	Change in Attitude of individual overseas customers **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**
4	Impact of interest rate fluctuations, measures like QEs, Greece impact, etc. in international markets. **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**
5	RBI intervention in the Forex Market **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**

(I-C) Assessment of FCE Risks- *Why* do you assess

1	Because of the pressure from Bankers **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**
2	To avoid surprises **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**
3	To reduce fluctuations in income/ expenses in foreign currency **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**
4	To exploit interest rate differentials between different currencies **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**
5	To reduce risk of financial distress thus cost of capital **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**
6	To follow dominant practices in business sector **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**
7	To comply with accounting regulations- IFRS/ Ind IFRS

	( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree
8	To calculate likely loss based on currency volatility
	( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree

(II- A) Mitigation Measures for FCE Risks- *Why* do you NOT Hedge

1	Low business volumes
	( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree
2	Availability of natural hedge
	( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree
3	Cost of hedging exceeds the expected benefits
	( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree
4	Unawareness about various internal and external hedging strategies and techniques
	( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree
5	High Cost of Hedging
	( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree
6	Absence of Hedging Cost Budget
	( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree
7	Limited Hedging Products available at OTC
	( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree
8	Structured products offered by the Banks
	( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree
9	Difficulty in pricing and valuing derivatives
	( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree

(II- B.a) Mitigation Measures for FCE Risks- ***Awareness about Hedging Techniques***

How many of the following Foreign Currency Risk Management products/ techniques are you aware of? Please tick 'YES', if your are aware of and 'NO', if you are not.

Internal Hedging Techniques		
1	Entering into an agreement with the clients for sharing currency risk	Yes (……) No (……)
2	Matching foreign currency trade payments/ receipts against receipts/ payments in the same foreign currency	Yes (……) No (……)
3	Incorporating foreign exchange adjustment clauses for sharing of currency risk in sales	Yes (……) No (……)
4	Incorporating foreign exchange adjustment clauses in sales or purchase contracts	Yes (……) No (……)
5	Passing price fluctuations on to customers by increasing price or by entering price variance clauses	Yes (……) No (……)
6	Multi-currency billing systems and price adjustment	Yes (……) No (……)
7	Invoicing exports through hard currency like USD or Euro etc. or multi- currency billing	Yes (……) No (……)
8	Negotiating imports pricing in domestic currency(INR)	Yes (……) No (……)
9	Internal Hedging Techniques- Netting Bilateral, Leading, Lagging, Matching etc	Yes (……) No (……)
10	Leading and lagging- Adjustment of payments/ receipts to/ from third parties	Yes (……) No (……)
11	Leading and lagging- Inter-entity netting of receipts and payments	Yes (……) No (……)
12	Leading and lagging- Netting through cross hedging, using cash flows in different currencies to offset each other	Yes (……) No (……)
13	Others, Please specify……	Yes (……) No (……)

(II-B.b)Mitigation Measures for FCE Risks- ***Awareness about Hedging Techniques***

How many of the following Foreign Currency Risk Management products/ techniques are you aware of? Please tick 'YES', if your are aware of and 'NO', if you are not.

External Hedging Techniques		
1	Spot Contracts	Yes (……) No (……)
2	Forward Contract	Yes (……) No (……)
3	Forward Contracts Between Two Currencies	Yes (……) No (……)

4	Options	Yes (……) No (……)
5	Covered Options	Yes (……) No (……)
6	Futures	Yes (……) No (……)
7	Swaps	Yes (……) No (……)
8	Forward Rate Agreements (FRAs)	Yes (……) No (……)
9	Interest Rate Swaps (IRSs)	Yes (……) No (……)
10	Foreign Currency Borrowings	Yes (……) No (……)
11	Structured Products	Yes (……) No (……)
12	Zero Cost Structure	Yes (……) No (……)
13	Others, Please specify……	Yes (……) No (……)

(III- A) Suggestions for containing and improving Risks from Foreign Currency Exposure of SMEs

1	Government should provide tax, non -tax based incentives to export oriented SMEs, particularly in case of appreciation in INR **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**
2	Government should make hedging instruments cheaper and user friendly **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**
3	Major reason for mismanagement of FCE by SMEs is poor or centralised decision-making process **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**
4	Decisions for hedging should be quick and based on proper strategy **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**
5	Structured/ complex derivatives products should be avoided **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**
6	SMEs should outsource professional and advisory services to take care of their foreign currency risk management **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**
7	SMEs should prepare and adhere to a policy document on foreign currency risk management. **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**
8	SME should try to pass pricing fluctuations on to customers by entering price variance clauses **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**

Your name: ……. (Optional)

Appendix- II

Questionnaire for Bankers / Financial Experts

Please tick wherever necessary

Area -	**Banking/ Finance**	
Organization		
Department -		
Experience -	**Less than 10 yrs**	**(…….)**
	10-20 yrs	**(…….)**
	20-30 yrs	**(…….)**
	Above 30 yrs	**(…….)**

(I) SMEs/ Corporates Face Foreign Currency Exposure (FCE) Risks due to

Following are some of the opinion statements on FCE risks to SMEs/ Corporates. Please indicate 'YES', if you agree and 'NO", if you disagree.

SMEs/ Corporates face FCE Risks primarily due to		
1	Volatility in currency fluctuations	Yes (…….) No (……)
2	Volatility in clients' domestic currency	Yes (…….) No (……)
3	Change in Attitude of individual overseas customers	Yes (…….) No (……)
4	Interest rate fluctuations	Yes (…….) No (……)
5	Unawareness about the problems related with currency exposure	Yes (…….) No (……)
6	Failure in identifying various Types of Exchange Rate Risks	Yes (…….) No (……)
7	Inadequate understanding of various hedging products, especially derivatives products	Yes (…….) No (……)
8	Poor Cash flow position of the firm and ability to withstand currency fluctuations	Yes (…….) No (……)
9	Non availability of proper user friendly hedging products/ mechanism	Yes (…….) No (……)
10	Others, Please specify……	Yes (…….) No (……)

(II) SMEs/ Corporates normally <u>Avoid Hedging</u> their FCE Risks because of

Following are some of the opinion statements on FCE risks. Please indicate your view in five-point response scale.

1	Low business volumes **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**
2	Availability of natural hedge **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**
3	Cost of hedging exceeds the expected benefits **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**
4	Unawareness about various internal and external hedging strategies and techniques **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**
5	Non-availability of trained staff **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**
6	Absence of Hedging Cost Budget **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**
7	Limited Hedging Products available at OTC **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**
8	Structured products offered by the Banks **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**
9	Difficulty in pricing and valuing derivatives **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**

(III. a) Mitigation Measures for FCE Risks- *<u>Adopting Hedging Techniques (Internal)</u>*

In your opinion, how many of the following Foreign Currency Risk hedging techniques / products do usually SMEs/ corporates use or are aware of ? Please tick the relevant column.

Internal Hedging Techniques		
1	Entering into an agreement with the clients for sharing currency risk	Yes (……) No (……)
2	Matching foreign currency trade payments/ receipts against receipts/ payments in the same foreign currency	Yes (……) No (……)

3	Multi-currency billing systems and price adjustment	Yes (……) No (……)
4	Invoicing exports/ imports through hard currency like USD or Euro etc.	Yes (……) No (……)
5	Negotiating imports pricing in domestic currency(INR)	Yes (……) No (……)
6	Leading and lagging- Inter-entity netting of receipts and payments	Yes (……) No (……)
7	Leading and lagging- Netting through cross hedging, using cash flows in different currencies to offset each other	Yes (……) No (……)
8	Others, Please specify……	Yes (……) No (……)

(III.b) Mitigation Measures for FCE Risks- *Adopting Hedging Techniques (External)*

In your opinion, how many of the following Foreign Currency Risk hedging techniques / products do usually SMEs/ corporates use or are aware of ? Please tick the relevant column.

External Hedging Techniques		
1	Forward Contract	Yes (……) No (……)
2	Options	Yes (……) No (……)
3	Covered Options	Yes (……) No (……)
4	Futures	Yes (……) No (……)
5	Swaps/ Forward Rate Agreements (FRAs), Interest Rate Swaps (IRSs)	Yes (……) No (……)
6	Structured Products	Yes (……) No (……)
7	Zero Cost Structure	Yes (……) No (……)
8	Others, Please specify……	Yes (……) No (……)

(III) Reasons behind UFCE of SMEs/ Corporates

Following are some of the opinion statements on FCE risks. Please indicate your view in five-point response scale.

1	Lack of Forex Management Skills in SMEs owners/ Corporates' Promoters **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**
2	Difficulty in estimating exposure effect **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**
3	Data collection and management by banks **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**

4	Non-availability of trained staff to manage Forex business **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**
5	Over/under financing are also responsible for UFCE **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**
6	Aggressive lending by Banks for improving volume of business **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**
7	Absence of industry wise exposure limits for SMEs/ small Corporates **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**

(V) Suggestions for managing Risks from Foreign Currency Exposure of SMEs/ Corporates

Following are some of the opinion statements on FCE risks. Please indicate your view in five-point response scale.

1	Government should provide tax, non -tax based incentives to export oriented SMEs, particularly in case of appreciation in INR **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**
2	Government should make hedging instruments cheaper and user friendly **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**
3	Easy availability of Exchange Traded Products **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**
4	Decisions for hedging should be quick and based on proper strategy **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**
5	Structured/ complex derivatives products should be avoided **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**
6	SMEs should outsource professional and advisory services to take care of their foreign currency risk management **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**

7	SMEs should prepare and adhere to a policy document on foreign currency risk management. **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**
8	SME should try to pass pricing fluctuations on to customers by entering price variance clauses **( ) Strongly Agree ( ) Agree ( ) No Opinion ( ) Disagree ( ) Strongly Disagree**

Your name: ……. (Optional)

Brief Profile of Researcher-

Dr. Akhilesh Tripathi

Dr. Akhilesh Tripathi is a banker with experience of around three and a half decades in wide spectrum of banking activities ranging from Branch operations, Credit Management, Investment Management, Treasury Management, Risk Management, Change Management, Economic Research, Equity Analysis, Risk Based Supervision, Independent Risk Advisory etc.

On academic front, his credentials include a basic degree in Commerce, an MBA(Finance) and CAIIB. He is alumnus of Indian Institute of Management, Indore. He has obtained his Ph.D in Risk Management from Birla Institute of Technology and Science (BITS), Pilani. He is member of PRMIA, GARP, ISACA and Indian Institute of Banking and Finance (IIBF), Mumbai.

Dr. Tripathi has presented several papers and delivered talks/chaired sessions in the area of banking and risk management at different forums. He got published more than eight research papers in international/national journals of repute. He is co-guide to PhD students. Recently under his co-supervision, one of his candidate has been awarded Ph.D degree.

Dr. Akhilesh Tripathi, is presently posted as Asstt. General Manager, State Bank of India, Local Head Office, Jaipur. He may be contacted at aktakhil@gmail.com.