Chapter 2

Review of Literature

Many finance specialists have pondered the benefits of doing hedging. These include classic contribution by Miller and Modigliani in 1958 and then by Smith and Stulz (1985). Smith and Stulz discussed that the managers’ risk aversion attitude and their compensation contracts affects the financial risk management in the firm. The earlier studies related to use of derivatives for hedging purpose include, study by Block and Gallaghar (1986) in which the significance of interest rate derivative products were discussed to hedge the interest rate exposure by US companies. The study by Dolde (1993) stated that the small firms are more concerned about cost of risk management while the approach of large firms for hedging their risk was not similar to small firms. Due to cost of risk management, small firms were found completely ignoring the derivative instruments for hedging purpose. The top 100 Finnish non-financial firms were considered for a survey on interest rate risk management by Hakkarainen, A., Kasanen, E. and Puttonen, V (1997). Bodnar, G. M., Hayt, G., Marston, R. and Smithson, C., (1995) contributed a lot on the issue. Their study clearly indicated that there was lack of awareness among firms to use derivatives for hedging strategies. They showed that UK firms were among the highest users of derivative products. The UK based firms were focusing more on their accounting earnings’ fluctuations to manage their forex risk exposure. The study by Loderer and Pichler (2000) focused on the risk management by Swiss companies. Their study found that the Swiss companies were not able to describe their risk profile. Similarly many studies based on survey on risk management and hedging practices by the firm were conducted across the world. For example, Bodnar and Gebjardt (1998) focused on European firms. Mallin, C., Ow-Yong, K. and

Several studies have employed the questionnaire approach for the analyzing the exchange-rate exposure management in context to non-financial firms (e.g. Bodnar and Gebhardt, 1999; Hakkarainen, A., Kasanen, E. and Puttonen, V., 1998; Bodnar, G. M., Hayt, G. S. and Marston, R. C., 1998; Marshall, 2000; Ceuster, M.J.K., De Durinck, E., Laveren, E., Lodewyckx, J., 2000; Mallin, C., Ow-Yong, K. and Reynolds, M., 2001). The most referred study is Bodnar, G. M., Hayt, G. S. and Marston, R. C., 1998; which considered publicly traded U.S. firms. Export is an important constituent in determining the exchange rate exposure of a firm that has been established by various theoretical (Marston, 2001) and empirical studies (Allayannis and Ofek, 2001). Allayannis & Weston (2001) come across an affirmative relation between the use of foreign exchange derivatives and firm’s value. However, there are several theories that recommends why it may be most favorable for a firm to hedge its position (Stulz, 1984; Smith & Stulz, 1985; Froot, K. A., Scharfstein, D. S. and Stein, J. C. 1993; DeMarzo & Duffie, 1995). The aim of this chapter is to provide a literature review of the current research topic.

Madhusmita and Rath (2017) documented the evidences of determinant of the forex risk exposure by Indian companies. The study took sample firms from manufacturing and service sector for a period of 13 years. The results of their research depicted that service sector in India is more exposed to the foreign exchange rate fluctuation in comparison to manufacturing sector.
Both of these sectors were found negatively related with the exchange rate in terms of their size while exports and market to book ratio of the firms under study were significantly related with the foreign exchange rate. Liriano (2016) presented a paper in conference at International Finance Corporation regarding stylized facts on the use of forex derivatives by exporters and importers from Chile. An extensive dataset of 5,600 firms was used over a sample period from 2000 to 2015. It was identified that Chilean firms were using currency derivative hedging strategies in proportion to their net forex risk exposure. An interesting outcome of this research was that the large number of small size firms was contributing to the larger share in the derivative market. The forex derivative hedging strategies were aligned with the mismatches in currency by various firms. The Chilean exporters were exposed to short positions while the importers were exposed to long positions in the currency derivatives.

Prasad and Suprabha (2016) discussed the benefits of using hedging strategies to cover forex risk. Their study focused on the economic exposure of Indian firms. A two factor model was used to measure the exposure rate of foreign exchange. The results of the study highlighted that twenty percent of the firms were significantly exposed to the forex risk. An interesting outcome of the study was that the firms were significantly affected by forex rate despite using various instruments of hedging like balance sheet hedging, using natural hedging and using derivatives etc. Patnailet al. (2016) discussed the existing rules, regulations related to foreign currency in India. Necessary issues related to policy framework on foreign exchange were discussed in their study. Their study addressed the issues related to portion of forex risk exposure which is not hedged by the firms, complexities and uncertainties in the regulatory environments etc. The researchers highlighted the risk involved in foreign currency borrowings when the
markets are incomplete and a large sized companies contributing significant to GDP were not fully hedged for forex risk exposure.

Bhaskaran and Priyan (2015) made at attempt to explore the factors in context of forex risk management. Their study was destined to know the scenario or pattern in the forex risk management strategies of the firm. A sample of 64 cases was taken by the researcher and out of 64 cases, the firms were divided into two groups. The findings of the study indicated that the firms in the study were taking hedging positions for shorter duration only. And in the situation of long-run forex risk exposure by the firms, the firms had to restructure their business or had to change the business model to manage a long-term forex risk exposure. Vasumathy (2015) conducted a study of Indian Export SMEs to know their awareness and understanding regarding foreign risk hedging, risk management practices, attitude of SMEs towards using derivative instruments for the purpose of hedging etc. The author also highlighted the scantiness of the research evidences on the related issue. The researcher adopted a descriptive approach to understand the currency risk management practices by small and medium enterprises. The findings of the research indicated that the small and medium export units in India behaved neutrally when it came to use the derivative instruments for the purpose of managing the currency risk. The firms did not adopt even the alternative methods of hedging the currency risk. But, the SMEs had shown consistency in monitoring the foreign exchange rate fluctuations in the domestic and international markets.

Singhrun and Bal (2014) took a sample of three IT companies of India. The objectives of their research were to study the availability of various hedging instruments in India and to know the implementation mechanism for hedging strategies by sample units. The authors recommended that the future of IT based companies will be more challenging and risky.
Therefore the IT firms need to be more prepared for the adversities of the future. The study also recommended that the Indian firms should increase the use of derivative instruments and strategies for hedging the forex risk. The derivative hedging strategies like bilateral netting, invoice billing, compound options, range foreign exchange agreements etc need to be used by firms to hedge the forex risk.

Raghavendra & Velmurugan (2014) conducted a study on sample size of 100 IT firms in India in order to examine their currency hedging practices. The questionnaire was developed by reviewing the literature on same topics in context to different countries. The outcome of the research concluded that foreign exchange risk was the major financial risk which is faced by the IT Firms & future contracts could be used to minimize such risk. The study suggested that the average time horizons for the use of currency hedging instruments were the contracts maturing in between 6 to 12 months. Further it’s concluded that the Indian IT firms are risk averse in practicing currency hedging and they perform analyses for predicting short term exchange rates.

Chong, Chang & Tan (2014) tries to chalk out the factors which generally influence the forex risk management mainly by the non-financial firms. It focuses on financial derivatives for managing the exposure from exchange. The study was conducted through a survey in which the questionnaires were circulated to the Treasurers and Financial Controllers of the firms. Descriptive analysis was employed to assess the profiles status of the respondents. Further, factor analysis was carried out to chalk out the factors which influence the use of financial derivatives. This paper focuses on Malaysia, where trading in derivatives has not been much popular. The study has only taken non-financial firms into consideration because they have option to opt for operational or financial hedging while financial firms also use derivatives for trading, speculation. 250 questionnaires were distributed to non-financial companies operating in
Malaysia, out of which 219 useable questionnaires were used for final analysis. In order to identify the constructs that affects the usage of financial derivatives in the country, explorative factor analysis was performed. EFA resulted in identification of three factors which were named as knowledge and skill, market risk and regulation and final factor named as company assertive level. Results of the study showed that the degree of derivative instrument flexibility and company’s assertive level for regulators and market affects the hedging decision of non-financial firms. Furthermore, study also demonstrated that even the Non-financial firms need to hedge against the foreign exchange exposure. But this decision depends upon the perception, skills of firm, market risk, and products available. With the new innovations in financial field, varied kind of financial instruments are available. The resulted outcome of the study indicated that the hedging decision in non-financial firms is mainly influenced by their assertive level towards the market & regulators and what is level of flexibility for derivative instruments. Besides this hedging decision is also dependent on the intellectual capability that firms acquire to perform hedging strategies Hence, in order to develop derivatives market in Malaysia, people need to be educated.

Hrubošová & Kameníková (2013) conducted a study on hedging practices on forex risk, majorly 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 &liabilities against higher exchange fluctuations. 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. TuranErol,
Ayhan Algüner, Güray Küçükcaoğlu, (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.

Bodnar, Consolandi, Gabbi & Jaiswal-Dale (2013) examined the derivative usage (both Interest rate and currency) by Italian firms, including the determinants of currency and interest rate derivatives in respect to currency and firm size, ratings, geographical location and 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. With 18.5% of return rate the final useable questionnaires that were used for final analysis was 86 firms only. The risks were composed of the currency and the interest rate risk, 67.4% actively managed the currency risk while 65.1% actively manage the interest rate risk while 79% of the firms (surveyed firms) used either of the interest rate or foreign currency derivative contract. The six firm level characters are Size, Geo, Market, Industry, Rating and Managerial Education. Results of the Logit-Regression revealed that Non-financial firms of Italy are mainly affected by the foreign currency risk. 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 its dominance of the small business and large clusters in the northern region.
Du, Ng & Zhao (2013) tries to give an alternative description of the missing variable bias and exposure puzzle different from the prior research work. They measured the foreign currency of a firm using Quantile Regression which is given by Koenker and Bassett (1978). The data for the present study was collected from 30 industries which were operating in US from a period of 1980 to 2009. The study pointed that the currency exposure of the firm is dependent on a large number of external factors and by using the standard approach the researchers found only 17% of the Portfolios belonging to US firms have currency exposure. The weakness of the standard method with regression is that it does not take into consideration the non-firm specific events leading to foreign exposure. Results showed that the majority of the firms have sizable currency exposure and the previous methods for calculating the same had methodical errors. The practical aptness of this method should be checked and verified.

Kumar & Malyadri (2013) examined the learning derivatives and types of currency derivatives in order to understand currency futures and its advantages over forward contract. Another objective of this study was to understand how currency futures are used for hedging the currency exposure. Apart from this, the study also examines different types of margins and calculation of mark to market margin in case of futures. The major focus of the study was on use of currency future for hedging the export and import trade remittance and currency future as a speculative and arbitrage tool. How the computation of mark to market margin is done when trading member has open position in currency futures for the period more than one day and to identify the risk containment mechanism created by exchange for currency derivative segment. The 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. Taking the practical example in the study, author explains how future contract works in case of hedging the Currency exposure. 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 is initiated using the future contract, one is not only able to fix 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. The exchange follows a Value at Risk (VAR) based margining through SPAN (Standard Portfolio Analysis of Risk) for collection of margin from clearing member. The Clearing member in turn collects the margin from Trading members and their clients.

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 is impacted by the attitude of management (Risk taker or Risk avoider). Data was collected from three companies operating in Thailand and data was collected through survey questionnaire, semi-structured interview, and document review method. Results of the Simulation of Financial Models and Thematic Analysis revealed that when exposure is high, attitude of the investor will be to avoid risk. In case of low exposure, attitude will be risk taker. Further, Risk taker manager will follow short planning horizon, while risk avoider manager will follow both short and long term planning horizon. The results of this paper can be beneficial for Thai firms, international partners, Thai government, financial
institutions involved in hedging. With the developments taking place in Thai region, hedging is becoming an important tool to prevent exposure from highly fluctuating currencies.

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.

Bligh (2012) reviewed the concepts related with the hedging instruments and examined different types of risk which are involved in the transactions which are future oriented. These concepts were explained in this paper through an example in which a USA company owes a payment to a UK vendor due in three months. Further, this article involves the calculation part of foreign currency hedging techniques which involves hedging using forward contract, money market, futures market, option, currency swap. It can be concluded that options are most expensive in comparison to the other available strategies. Bodnar et al. (2012) documented risk management practices by Italian nonfinancial firms. The research was conducted on a sample size of took the sample-size of 464 nonfinancial firms of which 123 firms were listed. The present study was based on a survey which was conducted to get response of the non-financial
firms for their risk management practices. The firm size, rating, access to capital market, geographical location, indulgence of sample firms in international trade and education level of management were the major criterion to see the difference in risk management practices. Broadly currency risk and interest rate risk management were managed by derivative instruments. Majority of the companies were doing hedging due to declining trade with emerging countries. The economic and political scenario of risk aversion was causing poor financial literary, diminishing value of lira and lack of innovation.

Bartram, S., Brown, G., & Conrad, J. (2011) investigated the impact of using derivatives on the risk and value of firm. The study was quite extensive and it took a sample of 6,888 nonfinancial firms from forty seven countries. The authors made an attempt to examine the operational hedging and using derivative methods by the firms to mitigate the risk. The findings of the study concluded that the nonfinancial firms were using derivatives products primarily for hedging purpose rather than for speculation purpose & for risk reduction, nonfinancial firms did not prefer operational hedging in place of derivative hedging. Makar& Huffman (2011) tried to explain the variations in amount of FXD in relation to differences in foreign currency exposure and identify the impact of industry membership on hedging practices. Key aspects of the study explained variations in the notional amounts of FXD in relation to difference in foreign currency exposure. Sample for the present study consisting 64 large US MNCs those were expected to be the major users of FXD, for the 1990-1994 periods. The selection of this sample is based on the following parameters: Large US based Multinational as measured by Forbes list of the 100 largest US MNCs; Company disclosed FXD information in its annual report, in accordance with SFAS number 105; Company operated in a manufacturing industry as reported on S&P Compustat data and Company which did not operate in the petroleum refining or related
industries. Results of the study conclude that Foreign exchange derivatives use is positively associated with foreign currency exposure. Sample companies FXD amounts average 10.1% of consolidated assets and company’s foreign sales represent 47.8% of consolidated assets. First part concludes that US MNCs increase their use of FXD by 0.68% for each 1% increase in the relative level of foreign sales. Aabo, Tom, Jochen Kuhn, Giovanna Zanotti, (2011) studied the impact of founder family’s influence on the risk management by medium-sized manufacturing firms specifically for foreign risk management. The study concluded that the difference in the risk management strategies of firms in which founder of family was taking management decision in comparison to their counterparts was insignificant. Further the firms managed by founder family were found more indulged in speculation in addition to hedging practices.

Savchenko & Makar (2010) investigates whether firms have changed their future use of FXDs which are genuinely exposed for foreign currency exposure. To comprehend the exchange rate exposure puzzle the present study used firm-specific approach. The key aspects that were addressed by the study includes the analysis of changes in the use of future for foreign exchange derivatives using firm specific approach and Usage of firm’s accounting data to monitor the use of future in foreign exchange derivatives and analyzing their hedging strategy habits based on their foreign currency exposure. For the present study 89 non-financial MNCs operating in U.S.A with ex ante exposure to varying exchange rates as proxied by the foreign sales ratio were selected. Results of the trade weighted exchange rate index revealed that the firms who are not 100% exposed, that is, partial hedgers in other words, make best use of futures and monitoring the same in case of increase or decline in the value of US Dollar while having significant foreign exchange exposure. Results also showed that there exists a substantial exposure either in terms of broad exchange rate index or firm-specific bilateral exchange rates in those firms which utilizes
more FXD’s in comparison to its foreign sales. Aabo, T., Høg, E., & Kuhn, J. (2010) took a sample of 215 Danish medium sized firms and information was obtained through an online web-based questionnaire which was sent to target respondents. Findings of the study indicated that the medium-sized manufacturing companies were using import as an important element to manage foreign exchange risk. There were less evidences obtained supporting the making changes in the capital structure of the firms to manage forex risk.

Das & Pradhan (2010) tried to shed some light on the issues faced by the exporting SME of India during the 2008 crisis and to examine the poor performance of same SMEs during the reforms. The major focus of the study was to examine the global crisis that could have a great impact on the exporting- SMEs. Besides this the study aimed to examine the unavailability of the structured credit and the limited credit issue. Inadequate risk management by the firms by concentrating the demand and supply to a particular customer & also the well-being of the enterprise is solely dependent on the owner of the firm. Data for the present study was collected from companies/firms who are indulged in exporting for a period of 1900 to 2006. Results of the analysis showed that the Indian SME involving in the exporting business have faced a lot issues due to a variety of reasons. Although there are long term solutions available for this, the SME haven't shown inclination towards implementing them, all these problems have compounded in the course of global crisis. However, the SMEs which are financially well insulated have become more competitive. One limitation of the present study that the study is only an observation of the author, there is also no involvement of any sophisticated statistical tool.

Yadav and Rastogi (2009) concluded that about two-fifths of the firms were risk averse but did not hedge their full exposure. A major number of the firms were following cost-center approach for managing risk. Ownership has been observed to be a significant determinant of
strategy used by firms to reduce risk. While a major number of foreign controlled firms and private sector business group firms were categorized as partial hedgers, while most of the public sector firms belonged to the category of negligible hedgers. They concluded that the adoption of risk management techniques is still in infancy. In a more recent study by Dash et al., (2013) it was suggested that in case of hedging the cash inflows, the best results are yielded by option hedging using out-of-the-money currency put option & in case of hedging the cash outflows, the best results are yielded by option hedging using out-of-the-currency call option. Further the results of the study highlighted that its very risky to remain unhedged towards foreign exchange fluctuations.

Clark & Judge (2009) evaluated the impact of various foreign currency financial hedging strategies determined by kind of exposure (long or short term) and kind of instrument (foreign currency debt, options, forwards and swaps) on firm value. This study comprises 412 non-financial companies as a sample for the year 1995. The OLS and multivariate logistic regression methodology were applied. The findings evident increase in value of the firm using foreign currency derivatives however, foreign currency debt hedging did not provide any hedging premium except when incorporated with foreign currency derivatives. It was further observed that short term derivatives lagged behind than foreign currency swaps in terms of generating value. Schiozer & Saito (2009) identifies determinants in managing currency risk as well as the magnitude of hedging by Non-Financial firms in Latin America (Mexico, Chile, Brazil and Argentina). The study also tries to assess whether the derivatives can generate cash flows to the tune of objectives of hedging and the impact of growth opportunities, tax benefits, informational asymmetry, financial distress costs and economies of scale on risk management decision. Data was collected from companies which are part of Bank of New York Latin American ADR Index.
Data was collected from 55 firms out of which 26 were operating in Brazil, 14 in Mexico, 12 in Chile and 3 in Argentina. Secondary data was obtained from 20-F files submitted to SEC, data stream and economatica databases and financial Statements. Derivatives contracts were classified into Foreign Exchange, Domestic Interest Rates, International Interest Rates and commodities. Sample was segmented into Users and Non users on the basis of different types of financial derivative. Informational asymmetry does not affect the magnitude of derivative holdings but positively impact the decision to use hedging. Tax incentives do not impact the size of hedging currency exposure while growth opportunities directly impact it. Results of the study found that large amount of foreign debt will also increase the size of currency derivatives. Size of the firm will share direct relation with the use of derivatives and inverse relation with the magnitude of risk management. Financial Distress is a major determinant for risk management while tax benefits do not holds much importance. Furthermore, Brazilian and Chilean firms are more engaged in derivatives in terms of both volume and magnitude in comparison to Argentina and Mexico. Brazil and Chile also have higher cash flow potential from derivatives and hold more FX derivatives than Mexican and Argentinean firms. One of the major limitations of this study was that the sample size was not representative of the whole industry and is limited to certain firms with good standing. Apart from this, managerial risk aversion has not been taken into account while determining the factors for currency risk management.

Clark & Judge (2008) investigated if the association between demands for corporate foreign currency hedging and leverage would be biased by foreign currency debt users using the data of 366 UK firms for the period 1995. The relation between the measures of financial distress and the demand for corporate foreign currency hedging was analyzed as well. The methodology of multinomial Logit regression was used for studying hedging decision. The findings
highlighted that the misleading inference could be caused failing to differentiate between foreign currency users and non-users with regards to relevance of financial distress on the need for corporate foreign currency hedging. It was revealed that most prior studies represented the employment of derivatives with hedging however, overlooked the significance of foreign currency debt as a hedging method. The financial distress was represented as financial leverage in most of the prior studies that might not be suggestive of financial health of the company. Further, if the sample of foreign currency hedgers divided into companies that do and do not employ foreign debt then the study showed leverage variables as significantly associated to the foreign currency hedging decision for companies which employ foreign currency debt either in combination with foreign currency derivatives or in separation except for company which only employ foreign currency derivatives.

Sivakumar & Sarkar (2008) tries to examine how various hedging instruments are being used by major Indian Firms across different sector and also to know their perspective towards the risks. Further, to insist the need for rupee futures in India due to high usage of the forward contracts. The study suggested that the usage of derivatives in India is highly regulated because the INR is only partially convertible, the most commonly used products are swaps, forwards and options. The firms dealing with more than one currency face a huge risk due to uninformed changes in the exchange rate; also the type of risk management varies with the type and kind of the risk. This paper explains about how different Indian Companies across different sectors use derivative products for hedging their risks. The study concluded that Indian firms, irrespective of the sector, for the purpose of short term hedging they use options or forward whereas, for the purpose of long-term hedging the Indian firms generally make use of swaps as their preferential instrument. Further it is concluded that there has been more easing of the regulations as a result
of which there has been a continuous foreign currency inflow. The forwards and the options are the most recognizable instruments. In the year 2007 the Rupee-Dollar futures was introduced and it could be traded, but this has to be regulated properly.

Sivakumar and Sarkar (2008) studied about various companies from different sectors and it was concluded that forwards and currency options were the most preferred instruments of hedging used by sampled Indian companies for short term and swaps were preferred by these companies during long term. Wang (2008) tries to chalk out the factors which generally influence the Forex risk management process of non-financial firms. It focuses on financial derivatives for managing the exposure from exchange. The major focus of the present study was to examine how multinationals and domestics both are affected by the volatility in the exchange rates. More volatile profits of the firm lead to lesser competition and firm value reduces in comparison to competitors. Thus, hedging becomes an important factor to lead in the competitive market especially if other firms are also engaged in it. Data was collected from 387 US firms which falls under S&P 1500 composite index for a period of 2003 to 2005. All the data has been taken from the 10 K disclosures and it is in terms of million dollars and the data has been divided into 3 parts in accordance with Large, Median and Small cap firms. Collected data was analyzed by using COMPUSTAT, Logit Model and OLS Regression Model. Results of the study demonstrated that Firms which hedge the foreign exchange exposure have higher firm value in comparison to non-Hedgers but value of the firm and market competition do not share any relation provided it has a certain level of foreign sales and industry level hedging. Large firms are more involved in hedging as they can afford the costs and they generally have more exposure to currency risk. Furthermore, larger firms also have higher distress costs in terms of leverage, higher chances of information asymmetry because of complex structure. Competitors hedging
strategy plays an important role while deciding to hedge, if required. Apart from this, Different industries have different levels of competition; different levels of competition will result into different levels of hedging. Before taking decision to hedge, one should look for hedging strategies followed among the industry, if no one hedges than there is no edge over others by hedging. The major limitation of the study was that the present research considers only the derivatives as the hedging activity but do not take into consideration the other forms of hedging performed by the firm.

Bartram (2008) evaluated foreign exchange rate exposure of the cash flows of large non-financial firms. The hedging ability of the firm was also tested employing proprietary corporate data comprising of foreign currency debt, cash flows and derivatives. The present study suggested the relevance of taking into account the result of corporate hedging by examining the Forex rate exposure on the basis of cash flows, foreign currency debt, derivatives and capital market data of the large multinational corporation. The findings reported that the operating cash flows of the company which are important for business actions, significantly peril to the exchange rates. Concurrently, insignificant exposure of cash flow was observed as a result of using hedging by the multinational corporations to cut down exposure.

Muller & Verschoor (2007) adopted a sample of 3634 Asian firms to examine whether exchange rate fluctuations influence the equity value of particular Asian active companies followed by ascertaining if the patterns of Asian foreign exchange risk exposure were industry type for the period of 1993 till 2003. Further, if the exchange exposure of the firm is more apparent with the rising time horizons was also probed. The study explored if the exchange rate exposure was ascertained with the help of variables considered as proxies for the hedging impetus of a company. The impact of hedging on long and short term exchange rate risk
exposure accompanied by variables used for justifying rationale behind hedging of the firms were inquired. It was found that Asian firms went through the effect of economically significant exposure for 25 and 22.5 percent to the US dollar and the Japanese yen, respectively. The level of exposure of the firm to fluctuation in exchange rate changes with return horizon. Also, short term exposure appears to be hedged better and weak liquidity position of the firm inclined to have lower exposures.

Rajendran (2007) in his study tried to prove that Banks with large deposit bases will be able to gain relatively, by externalizing the practices of Risk Management and to understand the intermediator role of the banks due to the Derivative exposure. The usage of the derivatives solves the dual purpose of generating revenues and also to manage the risk exposure in the volatile markets. Further, banks with higher risk co-efficient have higher credit risk and use unimproved loan assessing and recovery process. Finally, private sector banks having huge risk exposure have externalized the risk management process and also the foreign banks with lower risk exposure have externalized as required. Data for the present study was collected from 83 banks for a period of 2005-2006. Results of the study render that growth of derivatives has a profound impact on the advances growth of the banks with smaller deposit size and also the private sector banks. Therefore, too much of restrictive policies can hamper the growth of the loan rate. The hedging process should also be done according to the requirement of the bank. This paper gives a generalized opinion on usage of the derivatives by the banks, however it does not deeply discuss about the products which are required to be used the banks.

Judge (2006), considered 366 large non-financial U.K. firms in his study and documented that the factors that were important in determining relationship between expected financial distress costs and its decision to hedge against the foreign currency exposure. The results
provided strong evidences of a more significant foreign currency hedging decision. The findings of the present paper were found better than what was found in earlier studies based on US data. The present study identified that the possible reason for this could be due large number of studies in U.S. included even the hedging firms in their non-hedging sample, such as firms using non-derivative results against the a priori expectations. Besides this country specific method for currency hedging, which causes biasness in the institutional factor could be one of the reason for higher financial distress in U.K Firms.

Kim, Mathur & Nam (2006) using a sample of 424 companies studied whether operational hedging was a complement or a substitute for financial hedging. It was observed that companies with non-operationally hedged made employment of more financial hedging in comparison to the extent of exposure of foreign currency rate as calculated on the basis of export sales. Whereas, companies had more currency exposure which were operationally hedged but the amount of financial derivatives used by them became smaller as compared to exporting companies. This indicated the reason behind the usage of smaller amount of financial derivatives notwithstanding with the higher extent of exposure of currency risk by the global companies. The results also revealed that firm value could be increased with hedging.

Muller & Verschoor (2006) selected the sample of 935 U.S. multinational firms to assess by what means these firms were influenced by the movement of foreign currency during the period of 1990 until 2001. The conditional variance was incorporated by GARCH (1, 1) model into the system. The findings of the study showed that currency movement significantly influenced 29 percent of the sample with the actual functioning in foreign countries. Further, results indicated that returns of U.S. stock responded asymmetrically to the movements of currency. It was observed that the importance and accuracy of exposure estimates could be
increased by inserting non-linearity in foreign currency risk exposure. The results showed that asymmetries were found more prominent for large against small currency variations compared with appreciation and depreciation cycles.

Muller & Verschoor (2006) conducted review of extensive literature pertaining to the conceptual fundamentals of exchange risk exposure followed by current advancement towards assessment design and findings of empirical studies during the last two decades. This study invalidated literal unanimity with respect to the appropriate dimensions affecting currency risk exposure and anticipation for an exceptional model including entire intricacy of the consequence of exchange rate blows on the value of company. The findings also highlighted the relevance of cost and revenue structure of the company, input and output market elasticity for ascertaining sensitivity of the firm as a consequence of variation in exchange rate, their own competitive position and competitive environment. Further, internal feature of exchange risk exposure required to be considered while analyzing the linkage between the exchange rate movements and stock returns. The influence of fluctuations in currency over shareholder value was suggested by the amassed bulk of prior literature.

Bris, A., Koskinen, Y., & Nilsson, M. (2006, 2003) suggested that non-financial companies could gain from expanded capacity to support additional financial leverage and undertake prominent business risk with the decrease exposure of foreign exchange rate and market risk. It was indicated that decrease cost of capital as a consequence of lesser market betas embedded with advantages for firm valuations and corporate investment. The results reported significant growth in investment activity with the launch of Euro. Bartram & Karolyi (2006) examined the effect of introduction of the Euro in 1999 over foreign exchange risk exposure, market risk and the stock return volatility. The study took a sample of 3220 non-financial
companies from 18 European countries, Japan and the United States of America for the year of 1992-2001. The methodology of two-sample t-tests, chi-square and nonparametric Wilcoxon test were used for the data analysis. The findings of the study evident increase in volatility of total stock return and market risk exposure was reduced significantly with the introduction of Euro outside and inside of Europe for non-financial firms. It was observed that companies resided in the region of Euro showed decrease in market risk and also evident high portion of assets and foreign sales for non-Euro companies in Europe. The results suggested net absolute reductions in the exposure of foreign exchange rate with the launch of Euro for non-financial firms however, economically and statistically these variations were small.

Hu & Wang (2005) conducted a study in relation to the listed non-financial firms of Hong Kong so as to identify the various determinant of foreign currency hedging activities. The findings of the research study were failed to support the assumption of tax loss reduction, underinvestment & financial distress cost reduction. However, the findings supported the assumption in relation to the foreign currency exposure. The results showed that the firm’s policies related to currency exposure was the crucial factor determining a foreign currency hedging decision for non-financial companies in HK. On the contrary, in mainland of China, the Firms with major foreign operations were less likely to hedge foreign currency exposure due to non-floating exchange rate between HK dollar and the mainland RMB.

Saito & Schiozer (2005) confirmed the evidences of using derivatives by Brazilian non-financial firms, using a sample of 74 companies. Dash, M., Kodagi, M., & Babu, N., (2008) made a comparison of performance of different Forex risk management strategies for short term Forex cash flows. The results of the study indicated the currency options strategy yielded the highest mean returns in all sample periods for outflows irrespective of variation in exchange rates while
forwards strategy was found better one in case of inflows. Pramborg (2005) made an attempt to compare Korean and Swedish non-financial firm’s hedging practices. This study made addition to the existing literature by examining the differences in management practices of foreign exchange risk between the firms. From the two countries, only 163 companies answered to a survey disseminated during the period of 2000 to examine the hedging practices and foreign exchange exposure using derivatives and other methods. The Logit regression was employed to analyze the data. The similarities had been observed between the companies with regard to foreign risk exposure and hedging practices. The employment of derivatives by the sample of Korean firms was significantly lower than in the Swedish firms. Features like liquidity, foreign exposure, leverage and size unable to access this phenomenon. The reason could be higher fixed cost received for initiating derivatives programs by Korean firms. And the Korean derivative markets were not mature enough that could leads to higher cost moreover, heavy regulation of OTC derivative use from the Korean authorities. It was evident that Korean firms largely dependent upon alternative hedging methods as the decision to hedge had not country specific rather impelled by variables like firm size and the extent of foreign exchange exposure. Furthermore, Korean firms were found not so stringent in supervising the status of risk as compared to Swedish firms.

Kim & Sung (2005) evaluated the factors influencing the decision of the firm in handling foreign exchange risk in the market. For this, a sample comprised of 223 non-financial companies was considered from Korea. The study concluded that the size of the firm as the prominent factor for hedging. The size of the firm had stronger informative power, with concomitant findings, for external technique relative to internal technique that showed lesser costs. The export revenue alongside with size of the firm was found to be another significant
factor that influences hedging decision of the firms. Public companies were in particular, that required to fulfill the disclosure requirements and hence, found to have a stable net income. Abor (2005) examined how Ghana firms manage their foreign currency exposure risk using Forex Management Techniques. Some of the key aspects that were addressed by the present research were that the firms were classified based on Industry. Further, classified whether firms have risk management system or not. Classification based on the scale rating given by firms to the eight inbuilt goals in the questionnaire. Classification based on number of firms practicing hedging. Classification based on firms using hedging techniques due to high or low trade intensity. Data was collected from 100 firms operating in Ghana and the inclusion of these 100 companied was based on the basis of fulfillment of two basic criterions. First criterion was that, in the past three years the firm should have been at least for the two times indulged in import and the second criterion was that the first should be registered under “Association of Ghana Industries (AGI)”. The questionnaire pertaining to the research was sent to these 100 companies out which 68 companies returned the questionnaire. The result of a descriptive analysis revealed that a large number of firms do not practice hedging or do not use derivatives products, they tend to use them when the intensity of imports increases or if there is any increase in the prices of imports or if local currency depreciates. Firms having exposure in Forex are not managing properly either due to low level of awareness & education and also due to under developed nature of financial markets. It is recommended that Firms should educate themselves about the forex management, should have separate department & experts for managing forex and also banks should provide firms with variety of developed hedging tools & also educate their clients, that is, firms about the same.
Helliar (2004) tries to identify which UK based companies go for swap options and what are the problems which they encounter while using this type of market. Apart from this another objective of this study is to find why these companies’ uses swap market. Data was collected from 594 companies which were operating in UK. The study stated that the increased usage of the derivatives can be attributed to the success of the OTC and to prevent the misuse of the same, the UK FRs standard had come into play. Further, Swaps have become the favored products across the globe, thus this paper probes the same both from an academician’s perspective and also the Treasurers perspective. Result showed that the interest rate swaps are more important than the currency rate swaps also the treasurers of the companies are becoming smarter in the hedging of their risks. Also the swaps offer an advantage in the following areas like, access to funding; helps in the balance sheet management; help in the restructuring of the existing debt; outperform the market imperfection; help in the ease of transaction and provides comparative advantage. The implementation of the accounting standards have made the treasurers muse the swaps in a more accountable manner.

Hagelin & Pramborg (2004) scrutinized the association between hedging activity based on financial instruments and the foreign exchange exposure. Unlike previous literature, this study also considered use of debt dominated in foreign currencies along with currency derivatives. In addition, the effect from translation and hedging transaction exposure on firms were assessed. Data was collected from 160 Swedish firms in first phase which was held in the year 1997, 275 firms in second phase which was conducted in the year 2000 and 261 in the last phase which was conducted in the year 2001. The study was conducted on a sample of 617 Swedish firms to assess the relation between foreign exchange exposure and the hedging practices was established during the period of 1997 till 2001. The difference between cost and revenue value in foreign
currency is taken as the measure of exposure related with foreign exchange. In order to measure robust standard errors, the study resorted to the Newey & West (1987) GMM method. The findings reported that exposure of the foreign exchange risk was rising in underlying exposure. However, larger companies demonstrated lower intrinsic exposure because of the capacity to utilize operational hedges. The financial hedges were found efficient in lowering the risk of foreign exchange exposure of the firms. Furthermore, effect of risk reduction evident from translation and transaction exposure hedges. Further, results also showed that with the usage of financial hedging instrument there is reduction in the exposure of foreign exchange. It means that as the firm uses more and more financial hedging instrument along with the denomination of the foreign currency there is reduction in the exposure of foreign exchange of the firms.

Fraser & Pantzalis (2004) evaluated the association between stock prices of US multinational corporations and with the variation in foreign exchange rates based on four different measures. The sample comprised of 310 in total from mining and manufacturing firms. The study applied two factors least squares regression to ascertain the stock return with the changes in foreign exchange rate. It was found that most of the firm’s utilizing the firm specific foreign exchange indices demonstrated a significant exposure to foreign exchange rates. Studie’s results suggested that many corporations observed to be exposed to significant foreign exchange risk along with specific regions of a firm’s geographic network system whether related with any exposure depends on the application of the kind of foreign exchange rate index to measure exposure.

Kothari & Guay (2003) tried to analyze the magnitude of risk exposure for 234 large non-financial firms hedged by financial derivatives for the year of 1995. The comparison of these magnitudes to the magnitudes of firm exposure was also made which according to hedging
theory forecast would be possibly expensive. The study adopted descriptive statistics and regression analysis as a methodology. The findings reported the market value sensitivities of financial derivative portfolio and cash flow to inherent assets price fluctuations. It was evident that if commodity price, interest rates and currency exchange rates changes at the same time with the median firm’s derivatives portfolio and three standard deviations then firm would at the most yield $31 million in value and $15 million in cash. While in comparison to investing and operating cash flows, firm size and other standards, however, those were evident to humble amount. The employment of corporate derivatives seemed to be a small part of non-financial firm’s overall risk profile.

Nguyen & Faff (2003) made an attempt to examine whether foreign currency derivatives lower down the foreign currency exposure of the company if utilizing it as hedge. A sample of 144 Australian firms was considered for the period 1999. The OLS and GMM techniques were applied to measure the long term foreign exchange exposure. The findings suggested that Australian companies had minimum exposure to exchange rate variations in the short-run and the employment of foreign currency derivatives lower down exchange rate exposure in the short-run. Further, the level to which companies were exposed to transaction exposure could only be covered by utilizing short return purview and only a humble number of companies were periled to exchange fluctuations in the short run because transaction exposure could be efficiently hedged through financial hedging. However, in the long run Australian companies found to be exposed to foreign exchange rate because it was difficult to hedge economic exposure. In addition, no effect had been measured with the use of foreign currency derivatives, foreign sales and leverage on exchange rate exposure of different return purview.
Chan et al. (2003) studied the Hedging Effectiveness using utility maximization approach depending upon relative price changes in derivative and spot prices. The study considered the approach that whether Forwards or Over-the-Counter-Options provides the optimum hedging effectiveness to hedge NZD/USD transaction exposure to the exporters in New Zealand. The findings of the study concluded that prior to Asian Crisis 1997, for an ordinary risk averse exporter forwards markets were marginally more effective in comparison to the options synthetic forwards for a hedging contract of 1, 3 or 6 months, but during and after crisis option synthetics were more effective. The research also suggested that a normal exporter facing short term and lesser volatile exposure should use forwards market, however an exporter should use options in case of impulsive fluctuation. Further it was also concluded regardless of which derivative product was used, for a risk averse exporter utility derived from a hedged position was always greater than the unhedged position.

Chan, Gan & McGraw (2003) analyzed whether forwards or over the counter options gives optimum hedging effectiveness to hedge NZD/USD transaction exposure to the exporters in New Zealand. The study focused on Hedging Effectiveness using utility maximization approach depending upon the derivative prices and relative price change. The data for the present study is taken from the by DataStream data base for a period between 1st July, 1985 to 30th June, 2000 which comprise of average bid-ask spot prices. The study used Black Scholes Model, GARCH Model and Sharpe Ratio model for the analysis of the data. Results of the study depicted that prior to 1997 Asian Crisis 1 or 3 or 6 months, the forwards markets were marginally more effective than the options synthetic forwards for a risk averse exporter but during and after crisis option synthetics were more effective. Further, a normal exporter with facing short term and lesser volatile exposure should use forwards market; however an exporter should
use options in case of impulsive fluctuation. In additional to this, it was also concluded regardless to the derivative product is usage; utility derived from a hedged position was always greater than the unhedged position for a risk averse exporter.

Bradley & Moles (2002) tried to explain how large, publicly listed UK firms use currency risk management along with operational hedging for managing exchange rate risk. The study stated that foreign currency debt is a popular amongst the UK firms as it offers flexibility, in addition to the assets-liability management process it proves to be a hybrid strategy. Further, changing the source of inputs is being done by the utility companies, it is also crucial to predict the future foreign currency cash flow. Exchange rate is taken into consideration in the case of general industrial sector, along with service industries. For the identification of non-financial companies which are operating in UK, the researcher used EXTEL Financial database. On the basis of this, the researchers posted 579 questionnaires to all the listed non-financial firms to avoid low response rate. With a response rate of 68%, researchers received 395 useable questionnaires which were used for final analysis. Results of the descriptive analysis and Chi-square analysis revealed that a sizable portion of the firms in UK are ready to blend the strategic and operational techniques so as to manage the foreign currency exchange rate exposure. Firms with foreign subsidiaries are more open to this; along with this the firms favor a hybrid (financial/operating) technique. However, there are hiccups in fully forming a flexible strategic approach. The variations in the survey conducted by the researchers had quite variation in answers, these aren’t explained here, as it would give more insights in the practice by different industries.

Crabb (2002) used a sample of 276 US multinational firms to examine the net effect over stock return of those corporations with the exchange rate movement from the period 1992 until
1996. The panel data regression, generalized Tobit and CAPM model were used to measure the exchange rate exposure. The findings evident the effect of exchange rate changes on multinational corporations. It was suggested that the use of foreign currency derivatives (FCD) could mitigate risk of exchange rate exposure. The results highlighted that the financial hedging activities were the reason behind non-significant exchange rate exposure.

Henderson (2002) focuses on the major concerns regarding hedging currency risk in the emerging markets. Emerging markets include both the recent developments and difference between the developed and emerging markets. The major focus of the present study was that while managing currency risk, following peculiar characteristics of emerging market currencies have to be taken into account: Structurally High Inflation, High Forward Premiums, Options market implications, Lower forward rate biasness. Further, Traditional hedging structures included Plain Vanilla Call, Call Spread, Plain Vanilla Forward, Calendar Spread, Risk Reversal, Seagull while the enhanced tools include Knock Out, Knock In, Range Binary, Window Option and Fade-In Option. Management of currency cannot be same for every firm, it depends on the individual firm scenario. Passive currency management deals with reducing risk while Active currency management deals with gaining without hedging. Results of the study revealed that emerging markets have more options for hedging in comparison to past. Apart from this, Derivatives used to manage risk have developed over the time in terms of liquidity but few emerging markets do not provide liquidity because control of exchange is present.

Pantzalis et al. (2001) observed reduction in currency exposures with the capacity to make operational hedging for the companies together with pooled sample accompanying negative (net exporters) and positive (net importers) exposures. Cartel et al. (2001) indicated reductions in the exchange rate exposure as a result of employing financial and operational
hedges together. These findings corroborated the operational hedging as complementary to financial hedging. Allayannis & Ofek (2001) analyzed the employment of foreign currency derivatives for speculative or hedging purposes on the sample of S&P 500 non-financial firms during the period of 1993. In particular, the influence of currency derivatives over firm exchange-rate exposure was investigated. Followed by the factors that induce the firms to hedge and the extent of hedging was studied. The study used Tobit, binomial Probit and Truncated regression method to derive the results. It was indicated that company employ derivatives for hedging in the foreign exchange market rather to speculate. It was also evident that company’s exposure by means of foreign trade and foreign sales impel to hedge and direct the company on extent of hedging.

Brown (2001) attempted to look into the program of foreign exchange risk management of HDG Inc. The present study analyzed the determinants that influence why and how the company handles exposure of foreign exchange with the help of using discussion with managers, internal firm documents and data on transactions of foreign exchange derivatives count as 3110. The results indicated that competitive pricing, informational asymmetric and the assistance of internal contracting seemed to induce the firm for hedging. Furtherance, the hedging of HDG reckoned over derivative market liquidity, exposure volatility, accounting treatment, exchange rate volatility and current hedging results. Mallin, C., Ow-Yong, K. and Reynolds, M. (2001) studied the usage of derivatives instruments in the non-financial listed firms in UK. Results showed that derivative instruments were very popular among larger UK companies and main aim of using derivatives in UK Firms was to manage fluctuations in the accounting earnings. This finding of the study was in contrast of US firms.
Loderer & Pichler (2000) examined the practice in Swiss Industrial Corporation in managing the currency risk for the year 1996. The findings of the study revealed that about half of the firms did not know the currency RP of their cash flow and were also unable to quantify the currency RP of their value. Reason behind this could be companies don’t feel such a need due the on-balance sheet instruments employment to defend them prior and post currency rates changes. It was perplexing because making a rough estimate of at least the exposure of cash flows could be helpful & even was not forbidden. Further, companies without estimating aggregate transaction exposure had employed currency derivatives to hedge/ insure individual short-term transactions.

Marshall (2000) studied the practice of foreign exchange risk of the large MNCs such as Asia Pacific, UK and USA. The difference in the practice had been measured in terms of size of the MNCs, different regions, the industry sector and the degree of internationalization. The difference was revealed between the regions with respect to objectives and importance of foreign exchange risk, significantly on economic and translation exposure, the policies used for handling economic exposure and the employment of internal or external hedging methods. The industry sector and size of the MNCs other than overseas business were found significant in terms of the importance of exchange rate risk. Moreover, regional factor evident to be significantly influence to bring in differences in handling foreign exchange risk, the policies in dealing economic exposure and the internal hedging technique. Further, USA and UK multinational companies found to be having similar policies on the other hand Asia Pacific Corporation demonstrated significant variation.

Shin & Soenen (1999) tried to find out if US firms were risked to exchange rate by utilizing a sample of stock returns of 1051 US multinational firms during the period of 1983 till
1994. The pooled regression was employed to assess foreign exchange exposure. The results evident that small firms got benefits with the depreciation of US dollar value at international level. These firms had positive significant exposure of foreign exchange. The hedging activities did not prove efficient in case of large firms to rid of exchange risk. However, primary metal and the electrical equipment industries, in particular, were mostly exposed to foreign exchange risk. Chow & Chen (1998) utilizing a sample comprises of 1110 Japanese firms listed on the Tokyo stock exchange (TSE), evaluated the exposure of exchange rate risk and its factor on the basis of cross-sectional regression methodology for the period 1975 till 1992. The findings suggested that the equity returns of Japanese companies decreases with the depreciation of yen because these were found to be strongly negatively exposed. The reason behind this could be the heavy dependence of Japanese firms on imported raw material and they have learned how to grapple with the adverse effect due to yen appreciation. It was found that Japanese companies in non-traded industries & with higher imports ratio hit adversely with the depreciation of yen on the other hand would be less impacted if the firms fall under the industries with higher export. It was also evident that firms with high cash dividends, low liquidity and high leverage had high exposure. Further, small companies had small exposures for the one month return horizon whereas, smaller exposure had experienced by the larger firms with the longer-return horizons.

He and Ng (1998) conducted a study on foreign risk exposure of 171 Japanese multinationals and it was identified that 25% of the sampled firms experienced noteworthy Foreign Exchange exposure. He and Ng also looked at the relationship between Forex exposures and studied the variables that were tacit to reflect derivatives usage. It was evidenced that firms that were opting some mechanism to predict and hedging strategy were less exposed to Forex risk in comparison to their counterparts. Howton & Perfect (1998) examined the pattern of
derivatives and the determinants of the derivatives by the companies. The major focus of the present study was on the proofs, on the level of the types of derivatives contracts that are being used. The theoretical determinants in the derivative usage are external financing, financial distress; tax related costs and the risk exposure. For the present study, two samples have been drawn on the basis of following criterion: “The firm must have an annual report available on either Edgar or the SEC Q files, the firm cannot be a utility or a financial institution and finally the firm cannot have experienced bankruptcy in the previous three year”. On the basis of these criterions the researchers were left with 451 Fortune/S&P firms and 461 random firms who were taken from Compustat data base for the year 1994. Data was analyzed with the help of descriptive and Tobit model regression analysis. Results of the analysis depicted that the method of using the derivatives by the large US firms and also the motivating factor to use them. Firms using partially the derivative contracts are just 60% and the firms using derivatives properly only 36%. However in the above samples 90% were interest rate contract swaps, futures and forwards consisted of the 80% currency contract. One exemption was observed that the usage of derivatives by random firms’ in the study was not strongly associated with the theoretical determinants.

Grant & Marshall (1997) focused on UK companies. Their study was focused on the extent of derivative used by sample firms, the reasons for choosing those special instruments and the perceived risk associated with such instruments. The survey identified that UK firms were well aware of various derivative instruments like options, forwards, and swaps. And these instruments were used to manage currency risk and interest rate risk. The exotic products were used with caution because of liquidity concerns of the underlying market. Berkman, Bradbury &Magan (1997) took a sample of 79 New Zealand companies and a comparison was made in 79
New-Zealand non-financial firms and US non-financial firms. The study concluded that more than 65 percent respondents agreed that their firms are exposed of foreign currency risk mainly with USD followed by Australian Dollar. It was also identified that the firms in New-Zealand were more frequent to put their positions on derivatives to their board of directors in comparison to US firms. But both New-Zealand and US based firms had similarity in using derivatives to hedge their positions and managing the risk.

Mun & Morgan (1997) assessed the cross-hedging performance of five major currency futures for local currency or US dollar exchange rate risk confronted by depository financial institutions within a group made out of emerging Asian countries from 1985 till 1994. A generalized method of moments (GMM) and Sharpe Performance Index (SPI) were used to test the cross-hedge performance. The results of the study revealed that minimal variance cross hedging with a futures portfolio function in a much better way than a minimal variance cross-hedge with one currency futures for Thailand, Singapore and Indonesia, on the contrary, minimal variance cross-hedge with one currency futures surpassed for Malaysia and Korea. It was also found that the German mark futures of Korea would be the best alternative of a future contract for the minimal variance cross hedge whereas, Canadian dollar futures of Malaysia. However, among all composition methods, the joint naïve cross-hedge functions worst. Goetz & Hu (1996) argued that the currency swaps are more cost-effective for hedging foreign debt risk and the forward contracts are cost-effective for hedging foreign operations risk.

Bodnar, Hayt & Marston (1995) started with a sample of 2000 US non-financial firms and finally got usable response from only 530 firms and conducted a survey on usage of derivative products by these firms. The findings of study evidenced that more than three fourth of the sample firms were using foreign currency derivatives. It was documented that foreign
derivatives were the most commonly used derivatives among other available derivative products. Further in foreign currency derivatives, the forward contract was the top choice of the sample firms. In addition to forward contracts, OTC options were also among the most preferred choice to manage foreign currency risk. More specifically the result of the study can be summarized as follows:

1.) Out of 530 firms in the survey, 35% were using derivatives. Commodity based industries showed the highest usage, while derivative use was least common in service industry. In interest rate risk management swaps were the most used derivative product. For foreign exchange risk management, forwards dominated the other products.

2.) Firms using derivatives to hedge firm commitments were only 80% whereas only 44% of the firms used derivatives to hedge balance sheet and only 43% of the firms used derivatives to study on the direction of financial price.

3.) In concerns about derivatives like credit risk, accounting treatment, transaction cost and liquidity risk; accounting treatment was the issue of greatest concern. Around 67% of firms assigned "Minimizing fluctuation in cash flows" as their primary objective for hedging.

4.) For Counterparty risk, derivative transactions with 12 months or less, 87% of the responding firms said that they required a rating of A or better. For maturities greater than 12 months, a rating of AA or better for the counterparty rises to 60%.

5.) Swap and option pricing software was utilized by 30 to 35% of large firms but by only 10% to 15% of small firms. Option pricing software was slightly more common than swap pricing software.
6.) In reporting derivative activity to the BOD, most of the firms had centralized activity for risk management policy making. Only in the area of execution of transaction, there was a significant amount of decentralization (15%).

Choi & Prasad (1995) focused on examining the sensitivity of the exchange risk and its factor at the firm and industry level for 409 U.S. multinational corporations from 1978 till 1989. The exchange risk sensitivity coefficient had been received by applying OLS (ordinary least squares) model on firms whereas, GLS (generalized least square) model for industry related data. The findings of the study reported that 60 percent companies gained significantly from exchange risk exposure on the other hand, following decrease in the value of dollar, 40 percent companies lost. It was evident that firm specific operational variables leads to variations in exchange risk sensitivity across cross-sections. Further, inter-temporal and cross-sectional variations in the coefficients of exchange risk were also revealed despite the fact that, when the data combined on the basis of 20 SIC industry groups, limited support found for exchange risk sensitivity.

Bodnar, Hayt, Marston & Smithson (1995) aimed at studying the purpose of creation of a database that would be suitable for the academicians in risk Management. Another objective of the study was to find out the usage of derivatives by US Non-Financial Firms. In last, to identify how the Risk management policies and reporting procedures in context to derivatives are being followed in US Non-Financial firms. Study covers the following key aspects: overall use of derivatives; which derivatives are being used and why?; risk management policies and finally the control and reporting procedures. A Questionnaire, which was based on twelve different aspects, was distributed to 2000 Non-Financial corporations in the United States, out of which 530 useable questionnaires were retained for final analysis. For the selection of non-financial firms from the large population, a procedure was established according to which a random
sample of non-financial firms was taken from 1993 S&P Compustat database. Samples were based on following factors like industry, size and capital structure. Results of the study demonstrated that out of the 530 firms in the survey, 35% are using derivatives. Commodity based industries shows the highest usage, whereas derivative use is least common in service industry. In interest rate risk management swaps are the most used derivative product. For managing foreign exchange risk, forwards dominates the other products. Further, 80% of the firms use derivatives to hedge firm commitments whereas only 44% of the use derivatives to hedge balance sheet 43% of the firms use derivatives to take a view on the direction of financial price. In concerns about derivatives like credit risk, accounting treatment, transaction cost and liquidity risk; accounting treatment is the issue of greatest concern. Around 67% of firms assign "Minimizing fluctuation in cash flows" as their primary objective for hedging. For Counterparty risk, derivative transactions with 12 months or less, 87% of the responding firms said that they require a rating of A or better. For maturities greater than 12 months, a rating of AA or better for the counterparty rises to 60%. In addition to this, Swap and option pricing software is utilized by 30 to 35% of large firms but by only 10% to 15% of small firms. Option pricing software is slightly more common than swap pricing software. Finally, in reporting derivative activity to the BOD, most of the firms have centralized activity for risk management policy making. Only in the area of execution of transaction, there was a significant amount of decentralization (15%).

Nance et al. (1993) revealed that companies with high profitability and having prominent liquid assets had less inducement to indulge in hedging process as they were exposed to lesser financial and profitability distress. Batten & Mellor (1993) made an attempt to deal with the broad spectrum of financial risk management practices and events comprising employment of computer technology, the level of supervision of central bank and the internal control systems of
the Australian corporate sector using a sample of 72 firms. It was found that many companies trade their foreign exchange exposure rather not brought any limits in internal foreign exchange dealings. The various risk of foreign exchange rate was ascertained with the help of respondents. The employment of both synthetic and physical instruments was supported by the industry for managing foreign exchange risk. Further, size of the firm was found to have significant effect on the practice of risk management of the firm.

Belk & Gulam (1990) did a study on UK multi-corporations to observe how these companies manage their foreign exchange exposure management. Majority of the respondents defined their companies as risk averters and it was indicated that the sample companies were actively managing their accounting exposure for managing currency risk. And transaction exposure was focused heavily to manage foreign currency risk. Batten, Mellor and Wan (1993) conducted a study on management practices in relation to foreign exchange risk management of Australian based firm. The findings indicated that all companies were hedging their foreign currency risk. Majority of the firms were managing through transaction exposure while 8 percent of the firms were managing transaction and translation exposure. Only 17 percent of sample firms were managing all three types of exposures. These firms used both physical and synthetic products in order to offset the cash flows generated through foreign operations. The firms were extensively using synthetic products.

Collier et al. (1990) conducted an initial study on UK and US firms and targeted 27 large MNCs (only 23 replied) to study currency risk management practices by them. Their study focused on both transactions as well as translation risk impact on behavior of British and American. The study also tried to find the degree of risk neutrality approach applied in managing the currency risk. It was documented that different kind of policies adopted due to
contrasting philosophy towards the transaction risks, different approaches for Management of translation risk and Level of risk taking ability among US corporations. Their study concluded that (a) In case of transaction risk; generally risk averse firms opted for hedging while the organizations with risk neutrality mindset prefer to actively manage i.e. hedging decision is discretionary. Group of firms following risk averse policy believe that management is performed only as a defense to any significant loss not for earning additional profit. Generally companies with high transaction risk preferred to close out the transactions, (b) overall management of translation risk was not found much popular. Some organizations believed that managing risk causing changes in book value of reserves is of no use. While the other set of organizations felt that reserves are important for long term value to shareholders and thus risk should be managed, (c) UK companies were more open to manage translation risk in comparison to US companies. US companies which managed the risk were quite risk averse in their approach, and (d) Thus, we can find that higher transaction risk generally leads to close out policy. Also, large number of UK companies prefers to manage translation risk.

Collier et al. (1990) extended the previous findings dissecting the practices used by large British and American MNC’s for currency risk management. The study focuses on both transactions as well as translation risk impact on behavior of British and American. It also tries to find the degree of risk neutrality approach applied in managing the currency risk. For data 27 large MNC’s were approached out of which 23 replied (11 UK firms and 12 comparable US companies). The present study focused on different kind of policies adopted due to contrasting philosophy towards the transaction risks, different approaches for management of translation risk and level of risk taking ability among US corporations. Their study concluded that (a) In case of transaction risk; generally risk averse firms opted for hedging while the organizations with risk
neutrality mindset prefer to actively manage i.e. hedging decision is discretionary. Group of firms following risk averse policy believe that management is performed only as a defense to any significant loss not for earning additional profit. Generally companies with high transaction risk preferred to close out the transactions, (b) overall management of translation risk was not found much popular. Some organizations believed that managing risk causing changes in book value of reserves is of no use. While the other set of organizations felt that reserves are important for long term value to shareholders and thus risk should be managed, (c) UK companies were more open to manage translation risk in comparison to US companies. US companies which managed the risk were quite risk averse in their approach, and (d) Thus, we can find that higher transaction risk generally leads to close out policy. Also, large number of UK companies prefers to manage translation risk. Block and Gallagher (1986) studied the usage of derivatives instruments for hedging interest rate exposure in the USA. They conducted this study in post-October 1979, when the Federal Reserve altered its policy, leading to a boost in the interest rates volatility and interest rate. The results of the study revealed that about one out of five firms used interest rates options and futures to hedge the interest rate exposure. Large firms and companies in commodity oriented industries used these instruments more in comparison of the small firms.

Smith & Stulz (1985) analyzed the effect of hedging policy, contracting costs and taxes on investment decisions of the firms as information with regard to the broad diversity of hedging practices so determined. The study emphasized on following modern finance theory and the existence of inducement to increase the market value of the firm in the contracting process. The reason behind hedging of value maximizing company suggested as aversion of managerial risk, taxes and cost of financial distress. Collier & Davis (1985) focused on centralization vs. decentralization in currency risk management. Their study was based on 114 large companies of
UK. The research was destined to examine, 1) Divergent facets of management of Currency risk by large UK Multinational companies, 2) Identify Structure of organizational control for managing the risk and, 3) Impact of centralization on the risk taking abilities of the company. As per the survey conducted by them, large no. of UK companies was having Centralized structure to manage the foreign currency risk in comparison to the overseas subsidiaries. Centralized control can be compared with active management while decentralization can be compared with the close out policy. High level of risk will give rise to close out policy and low risk will lead to management of risk. Adler & Dumas (1984) tried to accustom with the definition and measurement of currency risk exposure. This study considered foreign exchange risk exposure of the company in accordance to the interest of analysts and stockholders. It was evident that both exchange risk exposure and market risk could be ascertained in the same manner.

Conclusion

The wide-ranging evidences obtained through studies mentioned above have highlighted the relevance of research on the issues related to forex risk exposure, management and hedging. As discussed above, the issue of forex risk exposure and management is addressed mostly by large corporations and small firms and unlisted firms have indicated that there is lack of knowledge and more ignorance to hedge the forex risk. The following table has given a snapshot of major contribution from various journals on the related issue.

Table 11

List of Journals and Authors Having Major Contribution in the Literature on Forex Risk Exposure/Management/Hedging

<table>
<thead>
<tr>
<th>Journal</th>
<th>Authors/Year</th>
<th>Country</th>
<th>No. of Papers</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Journal of Risk Finance</td>
<td>Abor,(2005)</td>
<td>Ghana</td>
<td>1</td>
</tr>
<tr>
<td>Title</td>
<td>Author(s)</td>
<td>Country/Region</td>
<td>Count</td>
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<td>-------</td>
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<tr>
<td>Accounting and Business Research</td>
<td>Belk &amp; Glaum, (1990); Collier, Davis, Coates &amp; Longden, (1990); Collier &amp; Davis, (1985)</td>
<td>UK, U.S</td>
<td>3</td>
</tr>
<tr>
<td>Pacific-Basin Finance Journal</td>
<td>Pramborg, (2005); Chow &amp; Chen, (1998); Mun &amp; Morgan, (1997);</td>
<td>Japan, Sweden, Korea &amp; Asian countries</td>
<td>3</td>
</tr>
<tr>
<td>Economics, Management</td>
<td>Das &amp; Pradhan, (2010)</td>
<td>India</td>
<td>1</td>
</tr>
<tr>
<td>Journal/Conference/Working Paper</td>
<td>Authors</td>
<td>Location</td>
<td>Year</td>
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<tr>
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</tr>
<tr>
<td>Review of Quantitative Finance and Accounting</td>
<td>Du, Ng &amp; Zhao, (2013)</td>
<td>US</td>
<td>1</td>
</tr>
<tr>
<td>The Journal of Finance</td>
<td>He &amp; Ng, (1998)</td>
<td>Japan</td>
<td>1</td>
</tr>
<tr>
<td>Advances in Finance and Accounting</td>
<td>Hrubošová &amp; Kameníková, (2013)</td>
<td>Czech Republic</td>
<td>1</td>
</tr>
<tr>
<td>Asia-Pacific Financial Markets</td>
<td>Hu &amp; Wang, (2005)</td>
<td>Hong-Kong</td>
<td>1</td>
</tr>
<tr>
<td>Decision</td>
<td>Jain, Yadav &amp; Rastogi, (2009)</td>
<td>India</td>
<td>1</td>
</tr>
<tr>
<td>Journal of Corporate Finance</td>
<td>Kim, Mathur &amp; Nam, (2006)</td>
<td>U.S</td>
<td>1</td>
</tr>
<tr>
<td>The Journal of Finance</td>
<td>He &amp; Ng, (1998)</td>
<td>Japan</td>
<td>1</td>
</tr>
<tr>
<td>Academy of Banking Studies Journal</td>
<td>Rajendran, (2007)</td>
<td>India</td>
<td>1</td>
</tr>
<tr>
<td>The Journal of Financial and Quantitative Analysis</td>
<td>Smith &amp; Stulz, (1985)</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Concordia University</td>
<td>Wang, (2008)</td>
<td>U.S</td>
<td>1</td>
</tr>
<tr>
<td>Indian Streams Research Journal</td>
<td>Budheshwar Prasad Singhraul, Gnyana Ranjan Bal (2014)</td>
<td>India</td>
<td>1</td>
</tr>
<tr>
<td>NIPF working paper series</td>
<td>Ilapatnaik, Ajay Shah, Nirvika Singh (2016).</td>
<td>India</td>
<td>1</td>
</tr>
<tr>
<td>Journal of Accounting and Marketing</td>
<td>Prasad K, Suprabha KR (2016).</td>
<td>India</td>
<td>1</td>
</tr>
</tbody>
</table>
In lieu of evidences obtained from literature survey, the following research gap has been identified.

**Research gap/ Need for present Study**

1. The mainstream of past evidences on forex risk awareness, forex risk management and determining forex risk hedging are available from countries other than India.

2. In case of Indian context, the focus of past research has been on listed and large-sized companies. Both unlisted companies and SMEs have not at the drawn evenhanded attention by researchers.

3. There is no consensus regarding the significance of Forex risk exposure management for SMEs. A wide-ranging research is required to prop up or discard this question.

4. The past studies are incomplete in the sense these have focused only on one aspect, viz., Forex risk exposure, Forex risk management and determinants of Forex risk hedging strategies etc. considering a small sample of less 100 or less 200 units. A more comprehensive study is required which addresses all these issues related to SMEs and Unlisted firms.

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