

Use of Financial Derivatives in Indian Companies: An Assessment

Tarakeswara Rao. Sivvala*

Abstract

Eminent researchers from all around the world have produced outstanding research and up-to-date empirical studies that have successfully and convincingly captured the corporate trend for risk management to increase the value of the organization in some way. It is accepted practice to view corporate risk management as a crucial component of a company's entire business strategy. On the basis of review of literature and discussion this research work has been planned on sampled Indian companies where the use of financial derivatives. From the research it was found that foreign currency risk is the most hedged risk, with OTC forward contracts being the most used derivative instrument. It has also been discovered that Indian companies use derivative instruments to hedge against variations in cash flow, whereas companies in the Western world use derivative instruments to hedge against accounting earnings. Concerning the companies' concerns about using derivatives, the responses show that the cost of hedging compared to the benefits, a lack of knowledge about derivatives within the firm, and perceptions of investors, regulators, and the public are the three major constraints that Indian companies are concerned about using financial derivatives.

Keywords: Corporate Risk Management, Perception, Apprehension, Management Financial Derivatives.

INTRODUCTION

Risk essentially describes the possible outcomes that could vary during a specific time period in a particular event. There can be only one conceivable result, in which case there is no variance and no risk. The danger is not zero if there are several conceivable outcomes; the larger the variation, the risk is greater. Risk can be viewed as the uncertainty factor regarding the occurrence of an even leading to under achievement of the business objectives. Business risks result from the potential for opportunities to be missed as well as from the likelihood that specific threats could manifest and lead to poor decision-making and results.

Eventually there are many types of risks associated with a first changing business environment. The typical risks that a company faces in its normal course of business include product risk operation risk, people risk, market risk, commodity risk, treasury risk, equity risk and credit risk. Risks are usually unavoidable but its consequence can be reduced, modified prevented or suitably managed.

*Author for Correspondence

Tarakeswara Rao. Sivvala
E-mail: taraksivvala@gmail.com

Assistant Professor, Department of Commerce and Management Studies, Dr. B.R. Ambedkar University, Srikakulam, Etcherla, Andhra Pradesh, India

Received Date: July 21, 2022
Accepted Date: August 16, 2022
Published Date: August 22, 2022

Citation: Tarakeswara Rao. Sivvala. Use of Financial Derivatives in Indian Companies: An Assessment. NOLEGEIN Journal of Business Risk Management. 2022; 5(1): 15–22p.

Financial Derivatives

A derivative in finance is a unique kind of contract whose value is based on how well an underlying entity performs. The term "underlying" is frequently employed to describe this variable, which may be an asset, an index, or an interest rate. Derivatives can be used for a variety of

things, such as hedging against price fluctuations, increasing exposure to price fluctuations for speculating, or gaining access to markets or assets that would normally be difficult to trade.

FDs are financial instruments that are associated to a particular financial instrument, indicator, or commodity and that allow for the independent trading of particular financial risks on the financial markets. In contrast to debt securities, where a principle payment is advanced to be repaid and where investment income does not accumulate, the value of a financial derivative is derived from the price of an underlying item such as an asset or index. Financial derivatives are employed for a variety of activities, such as risk management, hedging, market arbitrage, and speculating.

Uses of Financial Derivatives in CRM

Derivatives have emerged as a powerful tool of risk management. Corporate traders, investment banks, manufacturers, peasant etc. are all benefited by trading in derivatives [1]. Derivatives are supposed to have some of the following benefits: Financial derivatives assist in shifting, modifying, controlling and avoiding efficiently different types of risk through various strategies of hedging arbitrating and spreading etc. Financial derivatives help in price discovery both in spot and future markets. Financial derivatives enhance liquidity and reduce transaction cost of the underlying asset. Last but not the least financial derivatives smoothen out price fluctuation and squeeze the price spread of underlings.

Rationale of the Study

On the basis of through and deep literature review along with above discussion this research study has been planned on sampled Indian companies based on the rationality that, there is a dearth of literature on use of financial derivatives in India and we hardly find any organized work on use of derivatives for corporate risk management and hedging. Examples of corporate methods used by businesses in western nations in connection to risk management employing various engineering instruments can be found in the literature. The managers of Indian companies have not conducted an in-depth analysis of their overall approach and risk management plan, nor have they identified the reasons why they avoid using aggressive derivative hedging. As indicated in the study objectives, it has been intended to make a sincere attempt to uncover and disseminate fresh information on numerous and diversified areas of the use of derivatives in India.

Objectives of the Study

The present research study primarily aims to study the pattern and extent of use of financial derivatives by Indian corporate entities. Other objectives are:

1. To identify and analyse the determinants influencing the corporate behaviour to use derivatives.
2. To identify the underlying motivations to use derivatives.
3. To appraise the concerns of companies by using derivatives.

Data and Source

The study is based on firm level data which in turn has been obtained from secondary sources for the purpose of analysis. The relevant data was available in audited financial statements, which are the part of annual report of the sample companies. The data set also includes information collected by a survey about the perception of financial experts on the behaviour of companies to use financial derivatives. In the research questionnaire, information is sought about two specific matters such as motivations for use of financial derivatives and concerns of companies to use financial derivatives. Data was gathered using a Google form. On-financial companies in India are the foundation of my study. Five years' worth of data has been gathered for study.

Sample

These companies have been selected from top 500 companies of India (turnover) as per the ET 500 list published by Economic Times Group in 2021. Out of 500 companies, all non-financial companies are taken for consideration. Few businesses are disqualified because the rate was unavailable for all

five years [2]. The financial institutions that are not included are stock brokerage firms, insurance companies, mutual funds, and banking institutions. Chi-square technique is used to assess the significance of association and test of independence.

Limitations of the Study

This is a very useful and informative piece of research study, which is based on empirical data analysis relating to top Indian companies. Certain limitations of the study which are identified in the research process are considered worth-mentioning and enlisted as follows:

1. The study considers only non-financial companies excluding the financial companies though their financial exposures managed through derivatives are high.
2. The study is based on top listed companies in India excluding all medium-cap and small cap companies.
3. The window of the study has been taken as five years which could have lengthened to produce more robust results.

REVIEW OF LITERATURE

For this present study following literature was reviewed:

Empirical data on the factors that influence company hedging decisions were supplied by *Main. S.L in 1996*. In light of the statutory financial reporting requirements in force at the moment, he analyses the data, paying special attention to the restrictions on anticipatory hedging. He came to the following findings about the hedging model models on the basis of the evidence: When it comes to contractual costs, capital market flaws, and tax-based models, the data is contradictory. On the other hand, the evidence consistently supports the idea that hedging operations show economies of scale [3].

Geczy, C., Minton, B., and Sand, C. (1997) investigated the use of currency derivatives to distinguish between various theories of hedging behaviour. They found that companies are more inclined to adopt currency derivatives when they have more room for expansion and stricter financial constraints. Currency derivatives are also more frequently used by businesses with high levels of exposure to foreign exchange rates and economies of scale in hedging efforts. Additionally, they said that when deciding which forms of currency derivatives to use, a key consideration is the source of your exposure to foreign exchange rates [4].

For two different samples of US corporations, Howton. S.D & Perfect. S.B (1998) study the usage trends of derivatives. In terms of dollar value outstanding, they discovered that interest rate swaps and currency futures and forwards are the two contract types that are most common. The use of derivatives, according to their study, is negatively connected to hedging alternatives and strongly correlated with financial distress, external financing costs, tax considerations, and currency risk exposure [5].

Using data from non-financial firms between the years of 2002 and 2012, *Park. D&Kim. J (2015)* offered empirical evidence of the association between the use of financial derivatives, debt capacity, and stock return. The derivative usage variable is positively connected with corporate debt, according to empirical findings. This finding also implies that the individual firm's use of financial derivatives plays a significant influence in lowering expenses and boosting debt capacity [6].

Research Gap

The review makes it abundantly clear that research on the use of financial derivatives in corporate risk management is only being conducted in advanced western economies, such as the US, UK, Canada, Germany, Australia, New Zealand, Sweden, and the Netherlands. Asia, Africa, and other developing and underdeveloped economies around the world have seen very little research in this area. It will also be a good research work to testify the international determinants whether work in Indian context as well as that are the motivations and concerns for using derivatives in India.

Participant's Perception

The modern corporate risk management tools that have been embraced by businesses all over the world are financial derivatives. To reduce their exposure to various risks, the majority of large business entities use financial derivatives [7]. However, the use of financial derivatives as a risk management strategy is still not widely acknowledged. Companies are aware of the danger associated with utilizing financial derivatives in risk management, nevertheless [8]. In this study, we sought to identify the potential driving forces behind the use of derivatives as a recognized risk management tool, as well as the concerns of the corporate entities. A variety of sources, including companies, executives of broking firms, executives of consulting businesses, and other financial specialists like university professors and academics, have provided data through Google forms.

According to the study's findings, Indian corporations are generally focused in reducing overall risk, and they regularly utilize derivative instruments to control interest rate risk, foreign exchange risk, and commodity risk.

Our questionnaire clusters around three important questions:

1. What type exposure and derivatives were used
2. State the reasons for using
3. Factors of concern in derivatives usage

As it is mentioned above, we wanted the respondent to answer that according to them which kind of derivative instruments are mostly used by the Indian firms; motivation for using derivatives and concerns of using derivative instruments. The detail analysis of responses to every question in the questionnaire is presented below:

What categories of derivatives do businesses use to control their exposure to financial risk?

Here we have tried to ask for responses about the kinds of derivative instruments used such as OTC forwards, exchange-traded futures, OTC options, exchange-trade options, swaps to manage exposures like: currency exposure, interest rate exposure, commodity exposure, equity market exposure.

Table 1 explain about the responses we have got regarding kinds of derivatives companies are using to manage your exposures to financial risks. The table clearly shows that according to the respondents, Indian companies are highly using the OTC forward contracts to hedge risks. OTC contracts are typically used by businesses to protect themselves against currency and interest rate risk. According to the research, 89.58% of Indian enterprises, or 62 out of 69 respondents, use OTC forwards to hedge against exchange-related risks. OTC contracts are less frequently utilized to manage market-related risks and commodity price sensitivities.

Table 1. Derivative instruments and risk matrix

Kinds of derivative instruments	To manage currency exposure	To manage interest rate exposure	To manage commodity exposure	To manage equity market exposure
OTC forwards	62 (89.85)	24 (37.78)	7 (10.14)	5 (7.24)
Exchange-traded futures	32 (46.37)	39 (56.52)	49 (71.1)	6 (8.69)
OTC options	37 (53.62)	19 (27.53)	12 (17.39)	1 (1.44)
Exchange-rated options	34 (49.27)	22 (31.88)	17 (24.63)	3 (4.34)
Swaps	38 (55.07)	42 (60.86)	4 (5.79)	2 (2.89)

Similarly, the maximum use 71.1 of exchange traded future is for commodity derivatives. Also exchange traded futures are used for currency exposures 46.37 percent and for interest rate exposures, 56.52 percent. In the same line, 53.62 percent of the respondents opine that Indian companies use OTC options for currency exposures. 27.53 percent and 17.39 percent of respondents say that OTC options are used for interest rate and commodity exposures respectively.

According to the data, exchange traded options are employed for exposures in currency, interest rates, and commodities at 49.27, 31.88, and 24.63, respectively. Swaps' largest usage, according to the replies, is for hedging interest rate exposures, or 60.86. For controlling currency exposures, 55.07 percent of the swap is next best used. However, using swaps to protect against commodity and financial market risks is not as common. All derivative contracts are typically utilized for currency exposures and interest rate exposures, according to the responses as a whole. Very few respondents said that derivative contracts are used to hedge equities market exposures.

The following situations (motivating factors) call for the usage of derivative instruments:

We attempted to get answers to this topic regarding the types of risks that corporations in India insure against, such as fluctuations in accounting results, fluctuations in cash flows, balance sheet ratios, market value of the firm, etc. On a scale of one to four, we asked the respondents to rank the type of risks that were hedged. According to the scale, rank-1 is the most significant reason to employ a derivative, followed by rank-2 and rank-3 as the second and third best reasons. Table 2 contains the answers to the aforementioned question. 2. It is abundantly obvious that Indian businesses place a higher priority on cash flows than on accounting profits or other financial metrics like financial ratios. However, Indian companies hedge cash flows in addition to accounting profits.

Table 2. Motivations of Hedging through financial derivatives

Nature of Hedging	Rank-1 (High)	Rank-2 (Moderate)	Rank-3 (Low)	Do not know
Fluctuations in accounting earnings	15 (21.73)	24 (34.78)	21 (30.43)	9 (13.04)
Fluctuations in cash flows	42 (60.86)	17 (24.63)	3 (4.34)	7 (10.14)
Balance sheet ratios	9 (13.04)	15 (21.73)	35 (50.72)	10 (14.49)
Market value of the firm	3 (4.34)	13 (18.84)	10 (14.49)	43 (62.31)

Ha4: There is significant motivation for the entities to use derivatives as risk management tool.

The hypothesis that there is a significant correlation between the reasons for using derivatives for hedging and their level of significance has been tested using the chi-square test. The Pearson Chi-square is highly significant ($\chi^2 = 140.928$, degrees of freedom = 9 and 0.001), which is substantial evidence to reject the null hypothesis that the reason for using derivatives and the significance of those derivatives are unrelated. (Table 3) In order to determine the statistical significance of the degree of association between the incentive to utilize derivatives and their level of relevance, we also used Cramer's V and Phi test, which was also found to be statistically significant at the very lowest level of Type-I error (0.001).

Table 3. Chi-square tests for motivations of derivatives use

	Value	df	Asymp.Sig.(2-sided)
Pearson Chi-square	140.928	9	.000
Likelihood Ratio	131.857	9	.000
Linear-by-Linear Association	44.640	1	.000
N of valid cases	276		
a.0 cells (0.0%) have expected count less than 5. The minimum expected count is 17.25.			

Which derivative contracts companies are mostly using for hedging?

Through this question, we have tried to get response from the respondents about the use of important financial derivative contracts by companies in India. For that, we have taken four of important derivative contracts for obtaining responses.

The Table 4 explains that Indian companies use mostly forward and future contracts for hedging purposes. Together forwards and future contracts account for more than 65 percent of the derivative

use according to the responses we have received placing them at rank-1. Similarly, options and swaps account for 35 percent of the derivative use at rank-1.

Table 4. Proportion of use of different derivative contracts

Types of contracts	Rank-1 (High)	Rank-2 (Moderate)	Rank-3 (low)	Do not know
Forwards	29 (42.03)	24 (34.78)	9 (13.04)	7 (10.14)
Futures	16 (23.19)	21 (30.43)	18 (26.09)	14 (20.29)
Options	11 (15.94)	9 (13.04)	24 (34.78)	25 (36.23)
Swaps	13 (18.84)	15 (21.74)	18 (26.09)	23 (33.33)

This suggests that compared to ready-made derivative contracts, customized derivative contracts (OTC) are more appealing to Indian enterprises. This is due to the fact that OTC contracts have a lower default risk than exchange traded derivatives due to the robust Indian regulatory environment and the parties' shared understanding of how to uphold the contract. Forward contracts also tend to be less expensive and more easily customized to meet the needs of the parties [9].

What are the problems or worries that businesses have with adopting financial derivatives?

We wish to find out how the company views the factors that discourage adopting derivatives by asking this question. The several potential criteria that we have selected are based on a review of earlier work.

Responses to this question clearly identify that there are certain important concerns which demotivates to go for using derivatives. (Table 5) Out of so many factors we have included in the questionnaire on the basis of our literature review, we found that cost of hedging is the most important concern for the companies to use derivatives. This implies that when companies are making a cost benefit analysis, the cost of hedging is more than the potential benefit that is going to accrue to the company. This is applicable for small companies whose exposures are not so substantial.

Table 5. Possible concerns of Hedging

Types of contracts	High	Moderate	Low
Credit risk	0	0	8
Uncertainty about qualifying for hedge accounting treatment	6	3	5
Tax or legal issues	5	1	6
Disclosure requirements	0	0	4
Cost of hedging compared to benefits	19	25	3
Liquidity risk	0	0	12
Lack of knowledge about derivatives within firm	16	20	2
Difficulty quantifying the firm's underlying exposures	6	6	9
Perceptions by investors, regulators and the public	10	12	4
Pricing and valuing derivatives	4	2	8
Monitoring and evaluating hedge results	2	0	5
Evaluating the risk of proposed derivatives transactions	1	0	3

The second major area of worry for businesses is a lack of knowledge regarding derivatives within the organization. This is also applicable for small sized companies because they cannot afford to appoint experts having requisite knowledge in the field of derivatives. Because, if these instruments are not properly handled it may create reasons for mass destruction of the company as we have witnessed in case of Lehman Brothers, J.P.Morgan, Baring bank etc. [10, 11]

It has not only created apprehensions for the companies, but also in the minds of investors. Government has also made stringent provision for accounting and disclosures of derivative exposures

and EBI with listing agreement requires mandatory disclosure of corporate risk management policies. This higher risk perception about derivative user firms in the minds of investors has created concerns for companies as this may discount the value of the company. We have also found in the responses which we have received by the survey, 16.12 percent respondents are of the opinion that perceptions by investors, regulators and the public responsible a lot for companies not going for derivatives.

There aren't many responses in favour of concerns about Indian companies using derivatives, including uncertainty about qualifying for hedge accounting treatment, tax or legal issues, difficulty quantifying the firm's underlying exposures, pricing and valuing derivatives, and assessing hedge results, and evaluating the risk of proposed derivatives transactions.

CONCLUSION

This research is directed towards gathering information about stand of various financial professionals on motivating factors and challenges face by the Indian companies to use financial derivatives as a risk management tool. The responses show that the foreign currency risk is the most widely hedged risk and the OTC forward contracts are most frequently used derivative instrument. It has also been found that Indian companies use derivative instruments to hedge against variations in cash flow unlike in the western world companies use derivative instruments to hedge against accounting earnings. With regard to the concerns of the companies to use derivatives, the responses show that the cost of hedging compared to benefits, lack of knowledge about derivatives within firm and perceptions of investors, regulators and the public are the three major constraints about which Indian companies are apprehensive of using financial derivatives. The chi-square test of hypothesis confirms and corroborates the above mentioned results.

Findings of the Study

A research study on financial professionals and experts regarding the concerns and motivations of the users of derivatives to use which are explained as follows:

1. According to the responses received, the major motivating factor for use of derivatives in Indian context is to freeze the fluctuations in the flow of cash. Indian companies are not so panic about the accounting numbers. Nearly 61.00 percent of the respondents ranked cash flow hedging is the motivation of users of derivatives in the first rank.
2. In terms of derivative instruments used, forward contracts are the most preferred derivative instrument to hedge against risks. It accounts for 42.03 percent of the total responses in the first rank followed by future contracts which account for 23.19 percent of the total first ranks allotted. Options and swaps account for 15.94 percent and nearly 19% of the total first ranks.
3. The research further explores that the OTC forward contracts mostly used for managing currency exposures which is 89.85 percent of the total responses received. Exchange traded futures are mostly used for hedging commodity related risk (71.10%) according to the responses.
4. In relation to the possible motivations, it has been interestingly found that Indian corporate actively hedges cash flows. The story is different in studies based on firms of United States where accounting numbers are actively hedged.
5. With regard to the concerns of derivative users 'cost of hedging compared to benefits' is the concern which has got the highest number of responses. Following that are, respectively, "Lack of information of derivatives within firm" and "perceptions by investors, regulators, and the public."

Suggestions of the Study

An attempt has been made through this study to explore various facts of corporate hedging pattern in India through financial derivatives by means of an empirical analysis. In this study, a model that may explain potential effects of many identified factors on the decision of the firm to use derivatives or not has also been attempted. This study also tests the significance of difference of these factors

between users and non-users of derivatives. In addition, this study also includes a survey regarding the motivations and concerns of users of derivative instruments in Indian context. Very interesting facts came to knowledge about the users of derivatives in terms of exert opinion that Indian companies use derivative instruments to hedge against variations in cash flows unlike in the western world companies use derivative instruments to hedge against accounting earnings and largely apprehensive of cost of hedging compared to benefits, lack of expertise about use of derivatives within firm and vigilant perceptions of investors, regulators and the public are the three major constraints for not using derivatives.

REFERENCES

1. Risk management: A practical guide, Aug-1999 Retrieved from <https://www.mscom/documents>.
2. The definition of 'Underlying' is retrieved from statement of financial accounting standards No.13 available at <https://www.fasb.org/BlobServer?blobcol>.
3. Main, S.L (1996) Evidence on corporate hedging policy, *Journal of Financial and quantitative analysis*, 31 (03), pp. 419–439.
4. Geczy.C, Minton. B&Schrand. C (1997) Why firms use currency derivatives. *The Journal of Finance*.
5. Howton.S&Perfct.S.B (1998) Currency and Interest-rate Derivatives use in US firms. *Financial management*, 27 (4).
6. Park D, Kim J. Financial derivatives usage and monetary policy transmission: Evidence from Korean Firm-level data. *Global Economic Review*. 2015 Jan 2; 44 (1): 101–15.
7. Guay. W.R (1999). The impact of derivatives on firm risk: An empirical examination of new derivative users. *Journal of Accounting and Economics*, 26 (1 pp-319–351).
8. Raturi. M (2005). The use of derivatives by US insures: Empirical evidence and regulatory issues. *The Journal of Risk Finance* 6 (2): pp-87–97.
9. Peter Mackay & Moeller. S (2007)
10. Wikipedia. Barings Bank [ONLINE] Available from: https://en.wikipedia.org/wiki/Barings_Bank
11. Wikipedia. 2012 J.P Morgan Chase Trading loss. [ONLINE]. Available from https://en.wikipedia.org/wiki/2012_JPMorgan-Cae_trading_loss