An Empirical study on "efficiencies of financial Derivatives market in Risk Management in present Indian investment"

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Abstract

This paper finds that concurrent with the Derivatives in Risk Management tool in present investment. Human beings created intellectual ideas on this earth and define in their style of living distinguish between good and bad based on their perception. However, the human being always expects for happy situations and wants to avoid the risk. Now a day's some prudent people innovated new type of instruments for the reduction of risk such as derivative market. The risk assumed as a salt in a combination of salt and sugar of life, investors expect to get only sugar (return) and they try minimizing salt (risk) in their investment. Risk management is an integrated process of delineating specific areas or risk, developing a comprehensive plan, integrating the plan, and conducting ongoing evaluation. Risk management, and it is the process of identification, analysis, evaluation and either acceptance or limiting of uncertainty in investment decision-making. Normally, risk management occurs anytime an investor or fund manager analyze and attempt to solve the risk in investment through the application of derivative investment's instruments. Inadequate risk management can result in creating consequences for investment companies as well as investors.

Keywords: Derivative market, Risk management, Indian Investment Sector and investor perception of derivative market.

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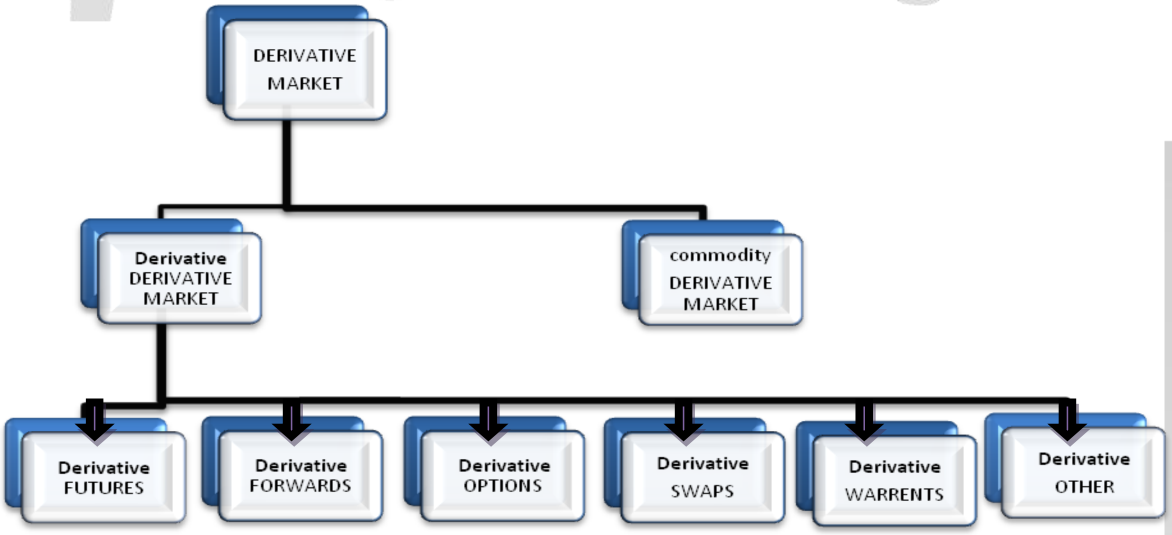
1. Introduction

This study deals with the elements involved in managing, evaluating, developing and risk management programs and use of derivatives within a risk management. Risk is a condition in which there is a possibility of an adverse deviation from an outcome that is expected or the possibility that something unpleasant or dangerous might happen or possibility of loss. Risk is the biggest headache to every investor. The risk diversification main objective of every prudent investor so they enter into different risk hedging instrument. In the present days derivative market becomes one of the popular instruments for hedging risk of investment and its use for instead of insurance. Financial risk management practices and derivative usage in large risk management instrument characteristics that have been proven as relevant in making financial risk management decisions.

Riskless investment not possible in investment because risk is also one of the characteristic features of investment, but limiting the risk possible by prudent investors. The financial risks are nothing but the variation in expected returns or the risks to a corporation which emerge from the price fluctuations directly or indirectly influence the value of a company. In the present days due to increased importance of financial risk management some of the corporate entities found new tools for hedging risk, such as derivative market. Investors believe that the derivatives market efficiently hedge the risk of financial investment.

Types of Derivatives:

The most used derivatives investment instruments are forwards, futures and options Here we take a brief introduction on derivative market.



❖ **Forward contract**

A forward contract is a customized contract between two parties. In this contract one party agreed to sell goods and services in future date with pre-agreed price and another party promised to buy the goods and services with pre- agreed price at pre-planned future date.

❖ **Futures**

A futures contract is a standardized contract in between two parties to buy or sell an asset at a certain time in the future at a pre-agreed price. Futures contracts are special types of forward contracts. Normally futures contract traded only on the stock exchange. Stock exchanges are acting as a liaison in between two parties. Due to intervention of stock exchange in futures market get some benefits, such as liquidity, and removal of counter party risk and etc. Here standard rules and regulation enacted by stock exchange and SEBI. So this future contract called as standardized contract.

❖ **Option**

Option contracts are one of the special contracts of derivative market. Option contracts are broadly divided in 2 categories.

- Call option
- Put option

Calls give the buyer the right but not obligation to buy a given underlying asset, at a pre agreed price on or before a given future date.

Puts give the buyer the right, but not the obligation to sell a given quantity of the underlying asset at a given price on or before a given date. This contract is commonly used for the purpose of hedging the risk in the investment and on the basis of nature and style, option can be classified into 2 categories.

- American option- American option having greater flexibility in exercising the rights at any time.
- Europe Option. -European option involving rigidity for exercising the rights at the expiration date.

- **Baskets**

  Basket options are options on portfolios of underlying assets. The underlying asset is usually a moving average or a basket of assets. Basket options are a popular way to hedge portfolio risk

- **Swaps**

  Swaps are private agreements between two parties to exchange cash flows in the future as per pre agreed decision. Swaps are broadly divided into 2 types. Such as Interest rate swaps and Currency swaps.

- **Warrants**

  Longer-dated options are called warrants and are generally traded over-the-counter.

- **Leaps**

LEAPS stands for "Long-Term Equity Anticipation Securities". This is one of the special type of the options and this option having a life of up to 3 years.

2. Literature review

NSE India (2011) study entitled by **"Derivatives Market-NSE"** says that following the growing instability in the financial markets, the financial derivatives gained prominence after 1970.now a day's the market for financial derivatives has grown in terms of the variety of instruments available, as well as their complexity and turnover. Financial derivatives have changed the world of finance through the creation of innovative ways to comprehend, measure, and manage risks.

K. G. Sahadevan (IIM) his study entitled by **"Risk Management In Agricultural Derivative Market"** his study says that. Derivatives market serves a risk shifting function and in future prices instead of relying on an uncertain price developer. The derivatives market is a vehicle for risk transfer to hedgers and from hedgers to speculators.

Don M. Chance and Robert Brooks his study entitled by **Introduction to Derivatives and Risk Management says** that the primary use of derivatives is financial risk management. Business, by their nature, faces risks. Some of those risks are acceptable. In fact, a business must assume some type of risk: otherwise, there is no reason to be in business. But other types of risk are unacceptable and should be managed, if not eliminated. So importance risk hedging instrument become more.

Michael Dothan his study entitled by **GSM-664 financial derivatives and Risk Management** state that Derivatives can hedge price risk, increase profitability, increase the value of the firm, and improve market efficiency. If used improperly, financial Derivatives can bankrupt organizations, threaten the stability of the financial system, and contribute to fraud.

3. Statement of the problem

With an efficient risk hedging capacity of Derivative Market has played vital role in world financial markets. Similarly, on the equity market, many investors who are not comfortable with the equity market, they were entering into some other available alternative investment. some prudent investors try to minimize their risk through buying insurance, which controls their downside risk, in the same way some of the prudent investors are trying to innovate new investment instrument for the purpus of reducing the risk on investment, in this type of new innovation path, they were found the concept of derivative market which is mainly used for managing the risk but people have not fully accepted the investment in derivative market, even though it provides much advantage to the investors to hedging their risk.

4. Objectives of the study

- To study on the efficiency of derivative Market in financial risk management
- To provide a brief introduction about types of instruments of the derivative market
- To analyze the beneficiary satisfaction level for investors on derivative market.
- To study on the importance of derivative market in Indian investment sectors

5. Scope of the study

A Convenient random sample was followed to 100 Investors is restricted to Chickmagalur district (Karnataka).

- Statistical tools used for data analysis
- Simple Chi-square test is as used for analysis of data and testing of the hypothesis.

6. Research Methodology

In order to reach the above stated objectives the study has covered both primary and secondary data. The primary data was collected through questionnaires. Secondary data was collected through published sources like magazine, books, journals and websites.

7. Data Analysis

Hypothesis

Ho - There is no efficiency of derivative market for financial risk management
H1- There is an efficiency of derivative market for financial risk management
Ho-There is no better satisfaction level for investors on risk diversification
H1- There is a better satisfaction level for investors on risk diversification

Table 1 -Showing Investors (selected respondents) Socioeconomic Profile
Source: Primary

Sl. No	Class	Gender (%)		Avg Age		Experience in derivative market (%)		Education (%)		Annual Income Status (%)	
		M	F	M	F	<2 yr	>2 yr	<UG	>UG	<2 lakh	>2 Lakh
01	Businessman	82	18	45	39	18	82	72	28	18	82
02	Agriculturist	90	10	47	30	24	76	88	12	78	22
03	Govt Employees	62	38	44	36	24	76	49	51	00	100
04	Self Employed	81	19	47	31	33	67	81	19	90	10
05	Trader	88	12	45	37	34	66	27	73	00	100
06	Private employee	84	16	27	28	19	81	42	58	02	98

Above table reveals that all the level of people is interested in the derivative market such as business people, agricultural land owner, government employees, traders and private employees.

I. Hypothesis

Ho - There are no efficiencies of derivative market for financial risk management
H1- There is an efficiency of derivative market for financial risk management

Table No.2 - Efficiencies of derivative market on financial risk management

SL No	Risk hedging efficiency of Derivative Market	O	E	O-E	$(O-E)^2$	$(O-E)^2/E$
01	Interest Rate Risk management	11	15	-04	16	1.07
02	Liquidity Risk management	18	15	03	09	0.60
03	Foreign Exchange Risk management	23	15	08	64	4.27
04	Operational risk management	12	15	-03	09	0.60
05	Market risk management	19	15	04	16	1.07
06	Credit risk management	09	15	-06	36	2.40
07	Settlement risk management	08	15	-07	49	3.27
Total		**100**				**13.28**

Source: Primary

E=100/7=14.29 or 15 **$[O-E]^2/E=13.28$**

d.f = (7-1) =6 **Calculated value = 13.28** **Table value = 12.592**

From the above chi-square table it reveals that 11 investors shared their opinion about the derivative market useful to hedge Interest Rate Risk (Active Position-Takers and Limited End-Users) according to the investor’s point of view, derivatives efficiently manage interest rate risk in their treasury units.

Only 18 investors believe that the derivative market easy to minimize the risk of liquidity. Liquidity risk is risk of inability to collect liquid money. Every rational investor prefers to have liquidity in his hand. Because if he didn’t have cash means it become the biggest problem to meet his obligation effectively and efficiently. Say for E.g. one person had 100 hectors of land and of cource he is rich but If there is no re-sale value of land or if its become difficulty of selling land, it shows poor liquidity, definitely he suffer to meet his daily routine expenses Unfortunately he failed to buy medicine for his headache. Even though he is rich it’s not come to use. Because of lack of liquidity management it will be happen. So it is necessary to minimize liquidity problem. Respondents believe that the derivative market efficiently manages the liquidity risk in the investment.

Out of 100 respondents 23 investors given the reason beyond their investment in derivative market because of manage foreign exchange risk. Foreign exchange risk is the risk to earnings or capital arising from fluctuations or volatility of foreign exchange rates. This risk is applicable to cross-border investing and operating activities so investors decided to invest in derivative market because it will manage foreign exchange risk.

Only 19 respondents are like derivative market because of market risk management. And only 9 and 8 investors says derivative instruments efficiently limiting Credit risk management and Settlement risk management respectively.

Table value 12.592 and calculated table value is 13.28 which is greater than table value. Therefore the **null hypothesis rejected** and **the alternative hypothesis is accepted.**

II. Hypothesis

Ho-There is no better satisfaction level for investors on risk diversification

H1- There is a better satisfaction level for investors on risk diversification

Table No.3 – Satisfaction level of Investors of derivative market on financial risk management

Sl No	Satisfaction Level	O	E	O-E	$(O-E)^2$	$(OE)^2/E$
01	Hedging the risk of investment	22	10	12	144	14.4
02	Predictable pricing	14	10	04	16	1.6
03	Presence of Counter party risk	02	10	-08	64	6.4
04	Liquidity	04	10	-06	36	3.6
05	Transparent in investment	08	10	-02	04	0.4
06	Risk Transferring	20	10	10	100	10
07	Alternative instrument for insurance	07	10	-03	09	0.9
08	Zero Capital investment (Derivative forward)	03	10	-07	49	4.9
09	Variety of instruments	05	10	-05	25	2.5
10	More investment opportunities with less capital	15	10	05	25	2.5
Total		**100**				**47.2**

Source: Primary

E=100/10=10 **$[O-E]^2/E=47.2$** **d.f= (10-1) =9**

Calculated value = 47.2 **Table value = 16.919**

From the above chi-square table it is reveals that 22 investors share their opinion about derivative market useful to hedge the risk on investment because it is risk hedging security and 14 investors are satisfied derivative market for its efficiency of price discover, and 08 investors like transparency in investment they believe that more transparency will be taken place in derivative market when compare to equity market such as window dressing, insider trading, artificial accounting and etc.

18 investors investing their money on derivative market because they assume in this market they can generate the more income when compare to capital market only when they knows everything about derivative market. Out of 100 respondents 03 investors given the reason beyond their investment in derivative market is they attracted by zero capital instrument (i.e., forward contract), and only 05 investors are like to variety of investing instrument in the derivative market, such as forwards, futures, options, swaps, leaps. Etc.

Out of 100 respondents 7 investors are investing on derivative market instead of insurance, and 15 investors invest money for more investment opportunities with less capital possible in the derivative market. Above table state that investors are actually keen interested and satisfied with the derivative market because of its use.

The survey has stated that the decision to use derivatives in Indian companies for hedging the financial risk, and how it will be efficiently hedging the risk and the perception of rational Indian investors towards derivative markets in minimizing the financial risk.

Table value 16.919 and calculated value is 47.2 which is greater than table value. Therefore the **null hypothesis rejected** and **the alternative hypothesis is accepted.**

8. Findings

This study point out some of the findings through observation viz.

- The majority of the Investors are agreeing to invest on derivative markets, because derivative instrument efficiently hedging the risk in the investment with the help of derivative markets, investors can transfer their risk to another.
- When compared to equity markets, derivative market maintains much transparency. It is one of the positive signs to derivative market.
- Except the derivative forward contract, all the derivative contracts taken place through stock market, so counter party risk handled by stock market's regulatory authorities.
- Derivative futures market provides much liquidity to investors.
- Derivative market helpful to manage the risk such as, Interest Rate Risk, Liquidity Risk, Foreign Exchange Risk, Operational risk,
- Some investors are attracted towards derivative forward market because of zero capital investment (no need to maintain the margin money in forwad contract).
- Some investors made the allegation on derivative market about it may cause the burden of liquid position in capital markets, bankrupt organizations, threaten the stability of the financial system, and contribute to fraud. Some time derivative instrument becomes very difficult to handle properly may it will be making losses also.
- Now a days investors showing the reluctance towards the derivative market and investors also have not fully accepted the investment in commodity market, even though it provides much beneficiaries to the investor to hedging their risk.

9. Suggestions

- Only the prudent investors who know thoroughly about derivative market they can enjoy the benefits of the derivative market. Derivatives market efficient hedging the risk, and due to lack of good knowledge about derivative market, investors lose their money and they show reluctance towards investment on derivative instruments. So secondary market, brokerage agency, SEBI and even researcher wants to create awareness about advantages of derivative market in the minds of investors through advertisement, conference and etc.
- If investors manage derivative market improperly without knowing anything, financial Derivatives can bankrupt organizations, threaten the stability of the financial system, and contribute to fraud so every prudent investors want to read the market thoroughly before investing in derivatives.
- Different Derivative instruments available in the market, investors want to know the individual instrument's performance and how it works for hedging risk or earning return. After analyzing the performance of each instrument then select the instrument as per investors convenience.

10. Conclusion

Every prudent investor expects less risky investment instead of risk less investment. They know about non existence risk less investment in any investment instrument. The emergence and growth of the derivative instruments depend upon the need and usage of investors and some of the investors desire to guard themselves against uncertainties arising out of fluctuations in asset prices with the effective use of the derivatives market. Derivative products minimize the impact of fluctuations in asset prices on the profitability situation of risk-averse investors. Many people have become rich in the Derivative markets; it is one of a few investment areas where individuals with limited capital can make profits in a relatively short period of time. The derivative is one of the qualitative instruments widely using for hedging risk on investment in present scenario.

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