PROJECT DISSERTATION REPORT ON

A STUDY ON PERFORMANCE OF MUTUAL FUNDS IN FRAMEWORK OF RISK & RETURN

Submitted By

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CERTIFICATE

This is to certify that **Mr. Harsh Pathak**, student of **Delhi School of Management, Delhi Technological University**, has fruitfully accomplished the research project work in the partial fulfilment of the requirement of Master of Business Administration (MBA) program for the academic year 2018-20.

The project work is titled as **"A Study On Performance Of Mutual Funds In Framework Of Risk & Return"**

_____	_____
Signature of Guide	Signature of HOD
(Dr. G C Maheshwari)	(Dr. Rajan Yadav)

DECLARATION

I hereby declare that the Research project report titled "A Study On Performance Of Mutual Funds In Framework Of Risk & Return" submitted to Delhi School of Management, Delhi Technological University, in fractional fulfilment of the necessities for the grant of the degree of Master of Business Administration, is a record of original dissertation work done by me, under the mentorship and supervision of Prof. G.C Maheshwari.

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Roll Number: 2K18/MBA/49

Place: New Delhi

Acknowledgement

This project has been completed because of the support and guidance of a lot of people. I am grateful to Prof. G.C Maheshwari for his constant guidance and feedback which helped me to understand the various aspects associated with research as well as understanding how classroom teaching can be inculcated towards solving real life business problems.

Special thanks is due to Dr Archana Singh for providing me insights towards the various aspects of Risk and Return which formed the bedrock of this work. I am really thankful to the unparalleled support of the various faculty members of Delhi School of Management who mentored and guided me in the various domains associated with this project. Last but not the least I would like to express my gratitude to my family without whose support and encouragement this project would not have been possible.

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EXECUTIVE SUMMARY

The economic and therefore the personal finance landscape have changed drastically since the first 90's because the Indian Economy opened and financial sector reforms were undertaken. Considerable percentage of the Urban India now has a higher household income and disposable income. Interest rates on debt instruments have fallen from as high as 12% in the 90's to 7% - 8% today whereas inflation is also in the same range while equity still on an average giving return around 15% -20%.

Moreover, current global economic environment continues to remain weak with the euro zone credit crisis adversely impacting global economic growth. The cost of living and aspirations have gone up putting pressure on income, which has got to generate the simplest return under the given circumstances. Moreover, the increasing complexity of monetary products makes it imperative for a private to hunt experts' opinion in managing one's finances during a disciplined manner.

Researches on this regard have been undertaken previously but the comparative techniques were either dependent on Standard deviation or one of the three ratios which are Treynor, Sharpe and Jenson's measure. This study is done on 5 Large cap funds traded on NSE and the risk and return are compared considering all the three measures mentioned above.

With this backdrop in mind, this report titled "A Study on Performance of Mutual Fund Schemes in Framework of Risk and Return" takes a look at the performance of some mutual funds presently in the market.

I believe this report will provide a valuable insight into the performance of the mutual funds, to have knowledge about its risk-return spectrum.`

Table of Contents

CHAPTER I
Introduction

1.1 MUTUAL FUND

A mutual fund is a collective investment scheme that pools investments from multiple investors with a single goal of making profits, this pool of investment or fund is professionally managed by an organization or an individual known as Fund Manager. The money which is pooled is further invested in different financial instruments like Equity, Debt and different other securities by the manager. If there is an income gain or there is a capital appreciation realized by the investment then the proceeds of it are proportionally distributed amongst the investor according to their investment proportion. That is why mutual funds are considered to be a suitable bet to an investor who doesn't have that much of market knowledge and wants to invest according to his appetite

Definition of Mutual Fund-

The SEBI (MF) Rules, 1993 gives the mutual fund definition as "A fund established in the form of a trust by a sponsor to raise monies by the trustees through the sale of units to the public under one or more schemes for investing in securities in accordance with these regulations."

1.2 Concept of Mutual Fund

1. 'N' numbers of people or investors comes together and pool their money with a common financial goal.

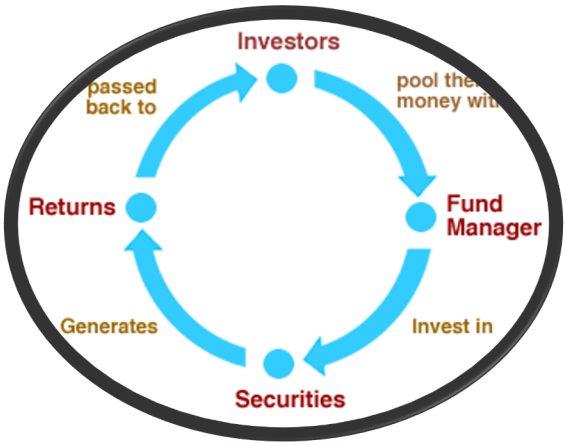
2. All the investors get the proceeds or the profit from their fund according to the proportion of their investments respectively.

3. The investments pooled by the clients is put into the shares, debt and different other securities by the fund management.

4. The losses and gains are all realised by the manager and he is responsible to collect all the income on securities such as dividends on behalf of the investors.

5. When there is some kind of fluctuation in the investment value in the market in form of equity and debt that value is simultaneously showed in the NAV of the fund. Net asset value is found out when the total value of an entity's liabilities are subtracted from the total value of its assets

Working of a Fund



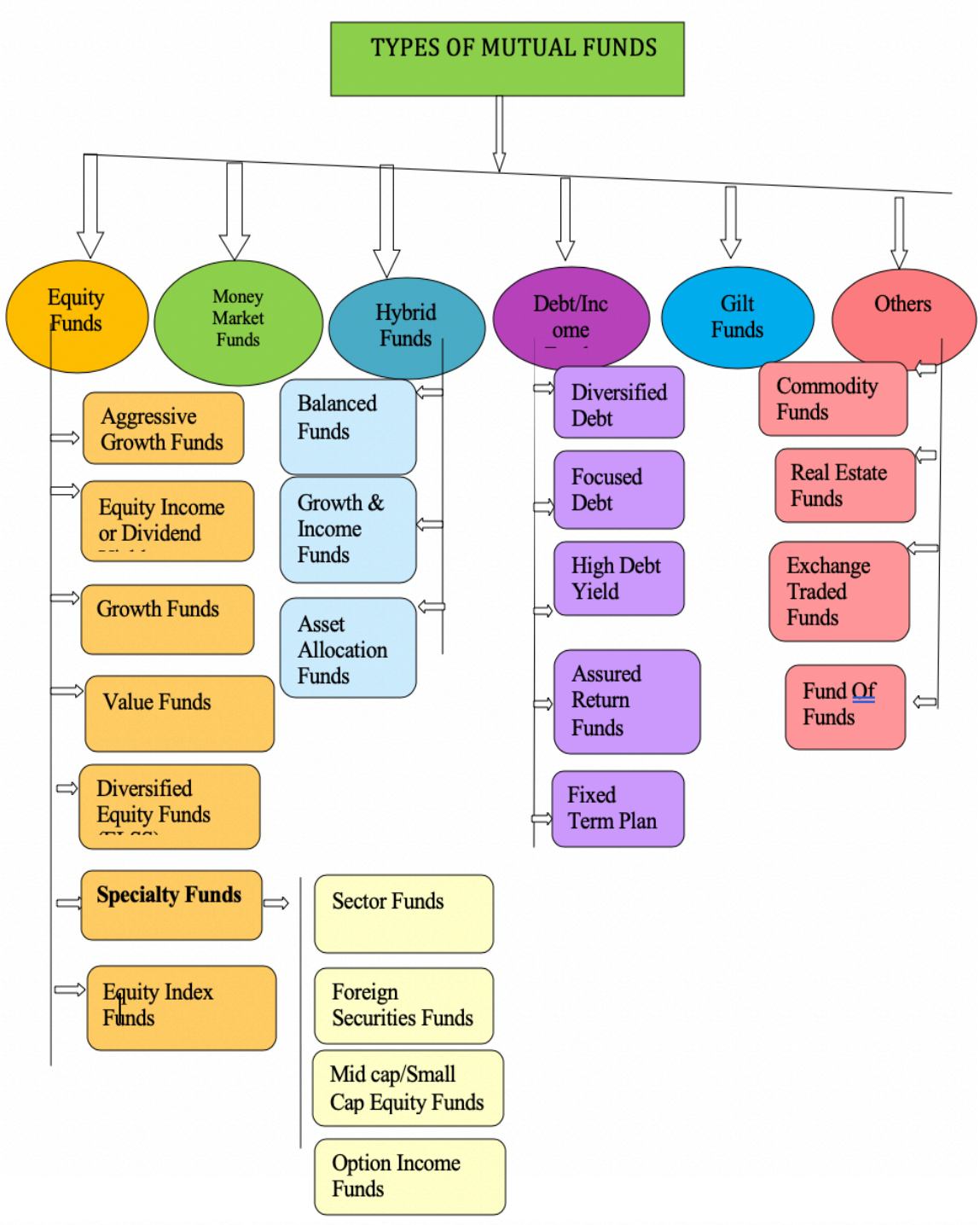
Security and Exchange Board of India (SEBI) is responsible for formulating policies which in-turn regulates the fund to protect the interest of the investors. SEBI initially notified the general public about these regulations in 1993 and then in 1996 they fully revised these regulations and again notified the general public. All the funds which can either be promoted by the private and public sector entities are governed by these regulations.

SEBI approved Asset Management Company (AMC) manages the funds by making investments in various types of securities. The Custodian, registered with SEBI, holds the securities of various schemes of the fund in its custody.

According to SEBI Regulations, two thirds of the directors of Trustee Company or board of trustees must be independent. The **Association of Mutual Funds in India (AMFI)** reassures the investors in units of mutual funds that the mutual funds function within the strict regulatory framework. Its objective is to increase public awareness of the mutual fund industry.

AMFI also is engaged in upgrading professional standards and in promoting best industry practices in diverse areas such as valuation, disclosure, transparency etc.

1.3 Types of funds:



Types of Funds used in this Research

1. **Open Ended Funds:**

   Like all other funds they are also a collective scheme in which investors put their money and the investors have the right to either invest that is issue or they can redeem the shares in the fund at any time. These funds have the property to issue 'N' number of stocks. NAV is used for daily pricing of all the open-ended funds. Example of these funds are ETFs, all the hedge-funds, and some mutual funds.

2. **Large Cap Funds**:

   These are the funds in which the fund manager invests a large amount of total pooled investments in companies which have large market capitalization, in Indian context example of Large Cap firms are Reliance Industries, L&T, ICICI Bank etc.

CHAPTER II
LITERATURE REVIEW

Satheesh Kumar Rangasamy et. Al. conducted a research on the topic "A Comparative Study on Performance of Selected Mutual Funds with reference to Indian Context". This research paper presented by Satheesh et al had an objective of studying and a certain mutual funds and then evaluating their performance on the basis of Simple average, standard deviation and comparative technique "Sharpe Ratio" and then coming up with a suggestion for investors to invest in one. Their study showed that Tata Balanced fund was able to provided higher average returns when compared to other funds.

Ms. Dhanalakshmi K (2013) carried out a research on the topic ,"A Comparative Analysis On Performance Of SBI And HDFC Equity, Balanced And Gilt Mutual Fund" with a view to compare and analyze the performances of SBI and HDFC Mutual Funds which special reference to Equity, Gilt and Balanced Mutual Funds using Sharpe Ratio, Treynor Ratio and Jensen Ratio. The study covers only three years' performance of the funds, i.e. from January 2010 to December 2012. She concluded that the funds fluctuated in their performance according to the market conditions i.e. the volatility in the market affected the returns of the schemes in the year 2010 and 2011, but the performance of the schemes revived better in the year 2012. Overall the study conducted revealed that investment in HDFC (Equity, Balanced, Gilt) Mutual Fund is better when compared to the SBI Mutual funds over the specified time period.

Mrinal Manish (2010) carried out a research on the topic," Comparative analysis of Mutual Funds with special reference to SBI Mutual Funds" wherein he compared the 5-year performances of SBI Magnum Contra and SBI Magnum Equity with some selected Private Sector Mutual funds in order to ascertain the returns and risk offered by these funds. After considering all the statistical parameters, it was found that Magnum Contra was the best fund in the category.

Dr. Vinay Kandpal and Prof. P. C. Kavidayal (2014) carried out a research on the topic, "A Comparative Study of Selected Public & Private Sector Equity Diversified Mutual Fund Schemes in India" wherein they also took HDFC Premier Multi Cap, HDFC Growth and HDFC Core and Satellite Mutual Funds under the category of Private Sector Mutual Funds, to compare with the 5 year (2008-2013) performances of selected Public Sector Mutual Funds on the basis of Standard Deviation, Beta, Jensen ratio, Sharpe ratio, R-Squared and P/E ratio. The authors found that HDF Premier Multi Cap and HDFC Core and Satellite Mutual Funds have a beta greater than 1 indicating higher risk and hence can be considered by the investors while investing. It was also found that HDFC Growth Fund is the best scheme among its peers as it has the maximum Sharpe ratio and it also ranked second as per Treynor Ratio. On the basis of this, the authors concluded that the Private sector mutual fund schemes performed better than the Public sector mutual fund schemes in the specified time period.

Dr. Rajesh Manikraoji Naik and M R Senapathy (2013) conducted a research on the topic," A Comparative Study On The Performance Of Mutual Funds SBI Mutual Funds V/S Others" wherein they compared the 1 year performance (from 2011-2012) of SBI Magnum Equity Mutual Fund with HDFC top 100 Mutual Fund on the basis of Standard Deviation, Sharpe ratio and Beta. Conclusively the authors said that, both HDFC Mutual Fund and SBI Mutual fund are good funds to invest in and there is only a marginal difference between them.

Ashraf and Sharma (2014) conducted a research to analyse the equity mutual fund's performance when checked against the risk free rate and index returns over the time frame of five years. The sample had 10 open-ended equity mutual funds. Tools used to analysed the performance are Sharp's ratio, Jensen's measure, Regression etc. They used monthly NAV and index closing for 5 years from 2007 to 2012 to analyse risk and return. Regression showed that return from the market has a major impact on the performance of the scheme.

Goyal and Madan (2018) underwent a research study to compare the monthly average of returns of 10 selected mutual funds of each company viz. HDFC, ICIC with each other over the period of May 2017 to April 2018 using secondary data on NAV. Based on the study it was found that the funds' performance was barely beating that of the index and amongst the funds HDFC is better than the rest.

Bahl and Rani (2012) in the research paper analysed the performance of 29 open-ended, growth-oriented equity funds for the period of six years. The performance in the past of the scheme were evaluated by making use of measures like Jnesens and Sharpe Ratio in order to make better investment decisions. The research results showed that the sharpe ratio came out to be positive for all the pooled investments which mean that the return is better in all than the outgoing risk free rates and Jensen's alpha showed that 65% of all the schemes were giving out alpha to be positive indicating great fund performances.

Venkataraman and Venkatesan (2016) did a research to compare and evaluate the performance of different schemes of mutual fund companies on the basis of risk and return, to analyse the funds benchmarked to their index and compare their performance to a common index and to finally evaluate the performance of the funds with respect to Sharpe Ratio, Treynor Ratio and Jensen's alpha.

After reviewing various published papers and articles by researchers one thing which can be concluded is that only standard deviation and returns of a portfolio are not enough to assess their risk and return, for an investor if they want to make an informed investment decision in a scheme they should always look out for measuring ratios such as Treynor, Jensen measure and also the Sharpe ratio. The investor should rank the funds they have selected according to these measures and then correlate the ranks with their risk appetite and then form a decision. One thing which can also be concluded from all the research is that the time frame of fund performance is totally up-to the researcher or the investor as they might be interested in checking out returns for small period such as 1 year or 3 years and they also might want to look for longer returns and behaviour for example 10 years or maybe funds lifetime as well.

CHAPTER III
RESEARCH METHODOLOGY

3.1 Problem Statement

In our country, India, there's been no or a very limited research on the topic of mutual funds that how they should be ranked what method should be used and due to that fact Indian population has more of a savings mindset rather than having an investment mindset. We have seen in the recent times that government has backed the mutual funds on-to a very large scale with the medium of advertising and also they have provided tax rebates on many investments so that mutual fund investments can increase. That is the reason why I have chosen this topic so that I can rank some mutual funds and this study might help the general public as well.

3.2 Study's Objective:

- To list and study the risk and return of a mutual fund.
- Study the comparison of how different funds perform in the context of Indian market.

SAMPLE DESIGN

The chosen sample comprises of 5 funds giving almost positive return over the time frame of three years. The entire population has been taken in to consideration for the study.

Need for Research

Concerned investors, business entities and Hni's are now looking towards these financial instruments; "Mutual Funds" effectively to lower their losses, nations have proved that these financial tools can lower the risk.

Volatility in our country, India, has always been on the higher side, which might cause higher levels of risk. This theory might make all the investors knowledgeable of the advantages and then they might use these tools in an effective fashion in correlation with their risk appetite. We have seen a trend in India in the past that the government of India has promoted mutual funds up-to a very good and want to change Indian mindset about investing and to help with that this study has been chosen.

To chek out the different kinds of funds listed by various entities/ fund managers on the market and to compare their performance amongst each other as well as the market index to check their volatility in line with Nifty

3.3 SCOPE OF THE STUDY:

- Research covers 5 Large Cap funds.
- This research sees over the time frame of past two years which is from January 2018 to October 2019 (Before Covid19 Pandemic).
- The research only studies he performance of open ended funds.
- Three approaches have been used namely Sharpe ratio, Treynor Index and the Jensen measure.

3.4 Design of Research

Data Type

- Use of secondary and quantitative data has been made to carry out this research.
- Five Large cap and open-ended mutual funds were selected from www.amfi.com on the basis of positive returns in the past 3 years.
- Monthly change is Net asset value of these mutual funds were recorded.
- For market, Nifty's monthly adjusted close value was taken from www.yahoofinance.com and recorded and then the data was then verified from NSE India's website.

Data Sources

The data sources for the secondary research are as follows

- Use of books were made to understand how the concept of portfolio management works.

  Website like www.nseindia.com and www.amfi.com were rigorously used to collect the data
- Newspapers such as Mint, Et were used to study about the market behavior.
- For observing monthly returns use of www.Yahoofinance.com is also made.

Data Analysing Methodology:

- First the monthly NAV of the funds and monthly returns of NIFTY were recorded in Excel.
- Then the Monthly returns on both were calculated.

3.5 Techniques and Tools

The tools to measure the performance used in the study are as follows:

- ♦ Sharpe Ratio
- ♦ Jensen's Measure
- ♦ Treynor Ratio
- ♦ Standard Deviation

BETA:

The sensitivity of a security to market movements is called beta (β). A measure of risk commonly advocated is beta. It represents the most widely accepted measure of the extent to which the return on a security fluctuates with the return on the market portfolio. It describes the relationship between the securities return and the index returns. To calculate the beta of a portfolio, regress the rate of return of the portfolio on the rate of return of a market index. The slope of this regression line is the portfolio beta. By definition, the beta for the market portfolio is 1. Beta of a portfolio can be calculated as follows:

Beta (βA) = $$\beta_i = \frac{Cov(R_i, R_m)}{Var(R_m)}$$

When,
R_i : Portfolio return
R_m : Market Return

RISK ADJUSTED PERFORNMANCE MEASURES

1. SHARPE'S INDEX (SI) -

This measure of performance or ratio has been used by the portfolio managers or investors for a long time now it tells the investors the return from a portfolio compared to the risk associated with that investment. This ratio specifically give out how much excess an investor earns with respect to the risk free rate going in the market over the volatility of the scheme or portfolio

Sharpe's Index SI given by the formula:

$$Sharpe = \frac{\left(R_P - R_f\right)}{\sigma_P}$$

When,
R_p : Portfolio return
R_f : Risk free rate
σ_P : Portfolio's volatility or standard deviation

3. <u>TREYNOR'S Ratio (TI)</u> -

It measures the fund's performance in relation to the market performance. To understand it better one must know about the characteristic line. The relationship between the given market return and the fund return is given by the characteristic line. The ideal fund's return rises at a faster rate than the general market performance when the market is moving upwards and its rate of return declines slowly than the market return, in the decline.

Treynor's Index (TI) given by the formula:

$$Treynor = \frac{\left(R_P - R_f\right)}{\beta_P}$$

Where,
R_P : Portfolio A Return
R_f : Risk Free rate
β_P : Portfolio A beta

4. JENSEN'S MEASURE-

The absolute risk adjusted return measure was developed by Michael Jensen and commonly known as Jensen's measure. It is mentioned as measure of absolute performance because a definite standard is set and against that the performance is measured. The standard is based on the manager's predictive ability. Successful prediction of the security price would enable the manager to earn higher returns than the ordinary investor expects to earn in a given level of risk. The basic model of Jensen is:

$$Jensen = \alpha_P = R_P - \left[R_f + \beta_P \left(R_M - R_f \right) \right]$$

where,
R_P : Portfolio A return
R_f : Risk free rate
β_P : Portfolio A beta
R_M : Market Return

2.7 STUDY'S LIMITATIONS

- All of the collected information was not available open source
- Couldn't interact with fund managers due to the pandemic situation.
- The funds were selected randomly as they were shown on the page of AMFI due to the positive returns in the previous years.
- NAV has been calculated from AMFI website and have been considered absolutely correct.

Five funds have been considered to complete this study and they are as follows:

1. Axis BLUE CHIP Fund
2. Aditya Birla Sun Life Frontline
3. BNP Paribas Large Cap
4. Canara Robeco Blue chip
5. JM Large Cap fund

CHAPTER 4
MUTUAL FUNDS TAKEN UNDER THE STUDY

4.1 AXIS Blue chip Fund

Investment Objective

This fund wants to achieve a long-term gain on the capital invested by putting money in a highly diversified portfolio. It contains securities such as equities and derivatives whose underline is an equity.

Scheme Information

Type of Fund: Open-Ended
Plan of Investment: Growth
Date of Launch: 05-01-2010
Index: NIFTY 50 TRI
Asset Size (Rs cr): 11218.78
Min root investment : Rs.5000
Recent Dividend Payment: N.A.
Issued Bonus: N.A.
Fund Manager: ShreyashDevalkar

Details of Load

Entry : N.A **Exit** : Exit between 0 to 12 months : 1%

4.2 Aditya Birla Sun Life Frontline

Investment Objective

Prime goal of the scheme is to achieve a long term appreciation in capital, it is a scheme in which the target allotment is of 100% equity. It has securities which are diversified on the basis of industry or sectors.

Scheme Information

Type of Fund:	Open-Ended
Plan of Investment:	Growth
Date of Launch:	30-08-2002
Index:	NIFTY 50 TRI
Asset Size (Rs cr):	19304.78
Min root investment	Rs.100
RecentDividend Payment:	N.A.
Issued Bonus:	N.A.
Fund Manager:	Mahesh Patil

Detail of Load

Entry : Nil **Exit**: If redemption between 0 and 365 days: 1%

4.3 BNP Paribas Large Cap

Objective

To gain a long-term capital growth by investing in equity and related security predominantly in Large cap companies.

Scheme Information

Type of Fund: Open-Ended
Plan of investment: Growth
Date of launch: 23-09-2004
Index: NIFTY 50 TRI
Size of the Asset (Rs cr): 788.57
Mini root investment: Rs. 5000
Issued Bonus : N.A.
Fund Manager: Abhijeet Dey

Detail of Load

Entry Nil **Exit**: redemption between 0 to 12 months : 1%

4.4 CANARA Robeco Blue chip

Investment Objective

To provide capital appreciation by investing money in majorly companies with large market cap.

Scheme Information

Type of Fund:	Open-Ended
Plan of Investment:	Growth
Date of Launch:	20-08-2010
Index:	Nifty 50 TRi
Asset Size (Rs cr):	334.32
Min root investment	Rs.5000
Recent Dividend Payment:	N.A.
Issued Bonus:	N.A.
Fund Manager:	Shridatta

Details of Load

Entry	Nil
Exit	Redemption between 0 to 1 year: 1%

4.5 JM Large Cap Fund

Investment Objective

To provide optimum growth on the invested capital by putting money in the large cap equities.

Scheme Information

Type of Fund:	Open-Ended
Plan of Investment:	Growth
Date of Launch:	01-04-1995
Index:	NIFTY 50 TRI
Asset Size (Rs cr):	2849.16
Min root investment	Rs.5000
Recent Dividend Payment:	N.A.
Issued Bonus:	N.A.
Fund Manager:	Chaitanya

Details of Load

Entry	Nil
Exit	Redemption between 0 to 60 days: 1%

4.6 OBSERVATIONS and Calculations

Monthly return of AXIS Bluechip Fund and Nifty 50

Date	NAV of MF	Return	Nifty Close	Nifty Return
Jan-18	26.6		11027.7002	
Feb-18	27.2	0.022556391	10492.84961	-0.048500646
Mar-18	26.35	-0.03125	10113.7002	-0.036134075
Apr-18	26.61	0.009867173	10739.34961	0.061861574
May-18	27.97	0.051108606	10736.15039	-0.000297897
Jun-18	28.39	0.015016089	10714.29981	-0.002035235
Jul-18	28.86	0.016555125	11356.5	0.059938606
Aug-18	30.57	0.059251559	11680.5	0.028529917
Sep-18	30.42	-0.004906771	10930.4502	-0.064213844
Oct-18	28.33	-0.068704799	10386.59961	-0.049755552
Nov-18	26.96	-0.04835863	10876.75	0.04719065
Dec-18	28.77	0.067136499	10862.54981	-0.001305555
Jan-19	29.06	0.010079944	10830.9502	-0.002909042
Feb-19	28.99	-0.002408809	10792.5	-0.00355003
Mar-19	28.87	-0.004139358	11623.90039	0.077035014
Apr-19	30.53	0.057499134	11748.15039	0.010689183
May-19	30.94	0.013429414	11922.79981	0.01486612
Jun-19	32.5	0.050420168	11788.84961	-0.011234794
Jul-19	32.6	0.003076923	11118	-0.056905434
Aug-19	30.88	-0.052760736	11023.25	-0.008522216
Sep-19	31.02	0.004533679	11474.4502	0.040931685
Oct-19	33.47	0.078981302	11877.4502	0.035121508

*Data on every month's 1st

Computation of Beta, Treynor's Measure, Jensen Measure, Sharpe Ratio of AXIS Blue chip fund

Beta	Fund's SD	Market standard deviation
0.20385683	0.04005971	0.040600169

Important Indicators of Fund Performance	
Average Fund Return Annually	14.11%
Average Market Return	10.38%(2018-2019)

Rf is taken equal to long term govt security i.e. 7.3%

Treynor's Measure	0.3325
Sharpe Ratio	1.6924
Jensen Measure	6.158%

INFERENCES:

- Standard Deviation (σ_A) of the returns of the investment is used to measure the total risk of the fund or scheme which is 0.04005971
- Market's overall s.d is 0.04060016
- The Beta for the fund is 0.203 (Less Volatile)
- Treynor's ratio of the fund for the time frame is 0.3325, this tells us that for every single change in the beta will bring out or will give us 0.03325 units of change in the portfolio return.
- Sharpe's Measure for the scheme for the period is 1.6924, this tells that for a single unit change is the SD there is 1.6924 unit of change in portfolios return.
- Alpha for the fund for the period is 6.15%

Monthly return of Aditya Birla Sun Life Frontline Fund and Nifty is

Date	MF NAV	MF Return	Nifty Close	Nifty Return
Jan-18	231.8		11027.7002	
Feb-18	237.56	0.024849008	10492.8496	-0.048500647
Mar-18	225.46	-0.050934501	10113.7002	-0.036134074
Apr-18	221.49	-0.017608445	10739.3496	0.061861573
May-18	230.35	0.040001806	10736.1504	-0.000297895
Jun-18	227.17	-0.013805079	10714.2998	-0.002035236
Jul-18	224.15	-0.013294009	11356.5	0.059938607
Aug-18	236.54	0.055275485	11680.5	0.028529917
Sep-18	242.2	0.0239283	10930.4502	-0.064213844
Oct-18	225.99	-0.066928159	10386.5996	-0.049755554
Nov-18	218.66	-0.032435063	10876.75	0.047190651
Dec-18	227.34	0.039696332	10862.5498	-0.001305555
Jan-19	229.19	0.008137591	10830.9502	-0.002909041
Feb-19	224.54	-0.020288843	10792.5	-0.00355003
Mar-19	224.8	0.001157923	11623.9004	0.077035015
Apr-19	241.04	0.072241993	11748.1504	0.010689183
May-19	238.73	-0.009583472	11922.7998	0.014866119
Jun-19	246.15	0.031081138	11788.8496	-0.011234794
Jul-19	242.49	-0.014868982	11118	-0.056905434
Aug-19	226.26	-0.066930595	11023.25	-0.008522216
Sep-19	222	-0.018827897	11474.4502	0.040931685
Oct-19	231.76	0.043963964	11877.4502	0.035121508

* Data on every month's 1st

Computation of Beta, Treynor's Measure, Jensen Measure, Sharpe Ratio of Aditya Birla Sun Life Frontline Fund

Beta	Fund's SD	Market standard deviation
0.09395163	0.03870277	0.040600169

Important Indicators of Fund Performance	
Average Fund Return Annually	0.85%
Average Market Return	10.38%

Rf is taken equal to long term govt security i.e. 7.3%

Treynor's Measure	-0.78
Sharpe Ratio	-1.893
Jensen Measure	-7.62%

INFERENCES:

- Standard Deviation (σ_A) of the returns of the investment is used to measure the total risk of the fund or scheme which is 0.387
- Market's overall s.d is 0.04060016
- The Beta for the fund is 0.09 (Less Volatile)
- Treynor's ratio of the fund for the time frame is -0.78, negative value is mostly insignificant but it means that either the return of the fund is negative or it's lower than the risk-free rate and the portfolio should be churned
- Sharpe's Ratio for the scheme for the period is -1.893
- Alpha for the fund for the period is -7.62%

Monthly returns of BNP Paribas Large Cap fund and Nifty 50

Date	MF NAV	MF Return	Nifty Close	Nifty Return
Jan-18	90.52		11027.7002	
Feb-18	92.75	0.02463544	10492.8496	-0.048500647
Mar-18	87.8	-0.053369272	10113.7002	-0.036134074
Apr-18	86.56	-0.014123007	10739.3496	0.061861573
May-18	90.02	0.039972274	10736.1504	-0.000297895
Jun-18	88.38	-0.018218174	10714.2998	-0.002035236
Jul-18	83	-0.060873501	11356.5	0.059938607
Aug-18	92.36	0.112771084	11680.5	0.028529917
Sep-18	94.34	0.021437852	10930.4502	-0.064213844
Oct-18	87.22	-0.075471698	10386.5996	-0.049755554
Nov-18	84	-0.036918138	10876.75	0.047190651
Dec-18	88.17	0.049642857	10862.5498	-0.001305555
Jan-19	89.01	0.00952705	10830.9502	-0.002909041
Feb-19	88.71	-0.003370408	10792.5	-0.00355003
Mar-19	87.43	-0.014429038	11623.9004	0.077035015
Apr-19	94.07	0.075946471	11748.1504	0.010689183
May-19	94.74	0.007122356	11922.7998	0.014866119
Jun-19	99.66	0.051931602	11788.8496	-0.011234794
Jul-19	98.6	-0.010636163	11118	-0.056905434
Aug-19	93.99	-0.046754564	11023.25	-0.008522216
Sep-19	94	0.000106394	11474.4502	0.040931685
Oct-19	100.79	0.072234043	11877.4502	0.035121508

* Data on every month's 1st

Computation of Beta, Treynor's Measure, Jensen Measure, Sharpe Ratio of BNP Paribas Large Cap fund

Beta	Fund's SD	Market Standard Deviation
0.067041207	0.04874095	0.040600169

Important Indicators of Fund Performance	
Average Fund Return Annually	7.49%
Average Market Return	10.38%

Rf is taken equal to long term govt security i.e. 7.3%

Treynor's Measure	0.024
Sharpe Ratio	0.0338
Jensen Measure	-0.039

INFERENCES:

- Standard Deviation (σ_A) of the returns of the investment is used to measure the total risk of the fund or scheme which is 0.0487
- Market's overall s.d is 0.04060016
- The Beta for the fund is 0.067 (Less Volatile)
- Treynor's ratio of the fund for the time frame is 0.024, this tells us that for every single change in the beta will bring out or will give us 0.024 units of change in the portfolio return.
- Sharpe's Measure for the scheme for the period is 0.038, this tells that for a single unit change is the SD there is 0.038 unit of change in portfolios return.
- Alpha for the fund for the period is -0.039%

Monthly returns of Canara Robeco Blue Chip Fund and Nifty 50

Date	MF NAV	MF Return	Nifty Close	Nifty Return
Jan-18	22.54		11027.7002	
Feb-18	23.41	0.03859805	10492.8496	-0.0485006
Mar-18	22.49	-0.0392994	10113.7002	-0.0361341
Apr-18	27	0.20053357	10739.3496	0.06186157
May-18	23.16	-0.1422222	10736.1504	-0.0002979
Jun-18	23.13	-0.0012953	10714.2998	-0.0020352
Jul-18	23.33	0.00864678	11356.5	0.05993861
Aug-18	23.07	-0.0111444	11680.5	0.02852992
Sep-18	24.63	0.06762029	10930.4502	-0.0642138
Oct-18	19	-0.228583	10386.5996	-0.0497556
Nov-18	22.5	0.18421053	10876.75	0.04719065
Dec-18	23.37	0.03866667	10862.5498	-0.0013056
Jan-19	23.54	0.00727428	10830.9502	-0.002909
Feb-19	24.81	0.05395072	10792.5	-0.00355
Mar-19	23.24	-0.0632809	11623.9004	0.07703502
Apr-19	24.88	0.07056799	11748.1504	0.01068918
May-19	25.77	0.0357717	11922.7998	0.01486612
Jun-19	25.88	0.00426853	11788.8496	-0.0112348
Jul-19	25.64	-0.0092736	11118	-0.0569054
Aug-19	20	-0.2199688	11023.25	-0.0085222
Sep-19	23.74	0.187	11474.4502	0.04093169
Oct-19	25.45	0.07203033	11877.4502	0.03512151

* Data on every month's 1st.

Computation of Beta, Treynor's Measure, Jensen Measure, Sharpe Ratio of Canara Robeco Blue Chip Fund

Beta	Fund's SD	Market Standard Deviation
1.07714496	0.11285579	0.04060017

Important Indicators of Fund Performance	
Average Fund Return Annually	14.52%
Average Market Return	10.38%

Rf is taken equal to long term govt security i.e. 7.3%

Treynor's Measure	0.066
Sharpe Ratio	0.6369
Jensen Measure	3.906%

INFERENCES:

- Standard Deviation (σ_A) of the returns of the investment is used to measure the total risk of the fund or scheme which is 0.1128
- Market's overall s.d is 0.04060016
- The Beta for the fund is 1.077 (Less Volatile)
- Treynor's ratio of the fund for the time frame is 0.066, this tells us that for every single change in the beta will bring out or will give us 0.066 units of change in the portfolio return.
- Sharpe's Measure for the scheme for the period is 0.0636, this tells that for a single unit change is the SD there is 0.0636 unit of change in portfolios return.
- Alpha for the fund for the period is 3.906%

Monthly returns of JM Large Cap Fund and Nifty 50

Date	MF NAV	MF Return	Nifty Close	Nifty Return
Jan-18	60.32		11027.7002	
Feb-18	66.74	0.106432361	10492.8496	-0.048500647
Mar-18	64.076	-0.039916092	10113.7002	-0.036134074
Apr-18	69.2	0.079967539	10739.3496	0.061861573
May-18	64.233	-0.071777457	10736.1504	-0.000297895
Jun-18	66	0.027509224	10714.2998	-0.002035236
Jul-18	64.45	-0.023484848	11356.5	0.059938607
Aug-18	69	0.070597362	11680.5	0.028529917
Sep-18	66.62	-0.034492754	10930.4502	-0.064213844
Oct-18	65.29	-0.019963975	10386.5996	-0.049755554
Nov-18	62	-0.050390565	10876.75	0.047190651
Dec-18	68	0.096774194	10862.5498	-0.001305555
Jan-19	65.09	-0.042794118	10830.9502	-0.002909041
Feb-19	66	0.013980642	10792.5	-0.00355003
Mar-19	64.664	-0.020242424	11623.9004	0.077035015
Apr-19	66.457	0.027727948	11748.1504	0.010689183
May-19	66.76	0.004559339	11922.7998	0.014866119
Jun-19	67.86	0.016476932	11788.8496	-0.011234794
Jul-19	66.95	-0.013409962	11118	-0.056905434
Aug-19	69	0.030619866	11023.25	-0.008522216
Sep-19	73.3	0.062318841	11474.4502	0.040931685
Oct-19	75.66	0.032196453	11877.4502	0.035121508

* Data on every month's 1st..

Computation of Beta, Treynor's Measure, Jensen Measure, Sharpe Ratio of JM Large Cap Fund

Beta	Fund's SD	Market Standard Deviation
0.13008973	0.0503725	0.04060017

Important Indicators of a Fund Performance	
Average Fund Return Annually	14.44%
Average Market Return	10.38%

Rf is taken equal to long term govt Security i.e. 7.3%

Treynor's Measure	0.546
Sharpe Ratio	1.711
Jensen Measure	6.71%

INFERENCES:

- Standard Deviation (σ_A) of the returns of the investment is used to measure the total risk of the fund or scheme which is 0.0503
- Market's overall s.d is 0.04060016
- The Beta for the fund is 0.13008 (Less Volatile)
- Treynor's ratio of the fund for the time frame is 0.546, this tells us that for every single change in the beta will bring out or will give us 0.546 units of change in the portfolio return.
- Sharpe's Measure for the scheme for the period is 1.711, this tells that for a single unit change is the SD there is 1.711 unit of change in portfolios return.
- Alpha for the fund for the period is 6.71%

CHAPTER 5

SUGGESTIONS AND CONCLUSION

Ranking according to Treynor's Index:

SCHEME	TREYNOR MEASURE	RANK
JM Large Cap Fund	0.546	I
Axis Blue Chip	0.332	II
Canara Robeco Blue Chip	0.066	II
BNP Paribas Large Cap	0.024	III
Aditya Birla Sun Life Frontline	(0.7801)	IV

- Treynor Ratio shows that how much growth or return a mutual fund provided for the risk assumed in the investment, so higher ratio fund is more desirable, so according to Treynor JM Large Cap is most suitable.

Ranking according to Sharpe's Index:

SCHEME	**SHARPE MEASURE**	**RANK**
JM Large Cap	1.711	I
Axis Blue Chip	1.692	II
Canara Robeco Blue Chip	0.636	III
BNP Paribas Large Cap	0.033	IV
Aditya Birla Sun Life Frontline	(1.89)	V

- Sharpe Ratio tells us how much extra an investor will earn when he/she will have invested in a fund or you can say extra return earned over the risk-free asset, so higher the Sharpe ratio better the fund, so in our case Axis Blue Chip is the most desirable according to Sharpe Ratio.

Ranking of mutual funds according to Jensen Index:

SCHEME	JENSEN MEASURE	RANK
JM Large Cap	6.71%	I
Axis Blue Chip	6.158%	II
Canara Robeco Large Cap	3.906%	III
BNP Paribas Large Cap	(0.039%)	IV
Aditya Birla Sun Life	(7.62%)	V

- An investor should not only look return but he or she must look at risk adjusted return and that is depicted by Jensen's Measure, so it shows extra return with respect to the risk. So higher the Jensen measure the better

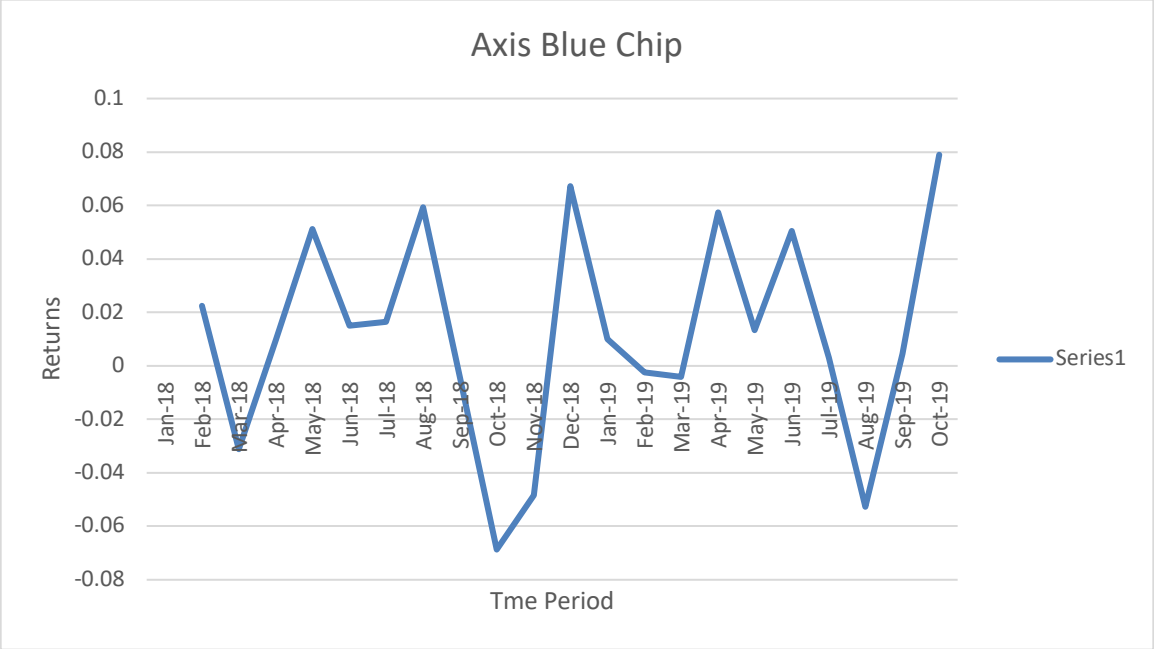
From the tables above and after careful observation of all the calculation made on the Sharpe, Treynor and Jensen's measure this study can conclude that amongst the five selected Large Cap mutual funds if a person wants to enter into a long-term investment he/she should look to opt "**JM Large Cap Fund"** as all the three measures for this are higher than the others.

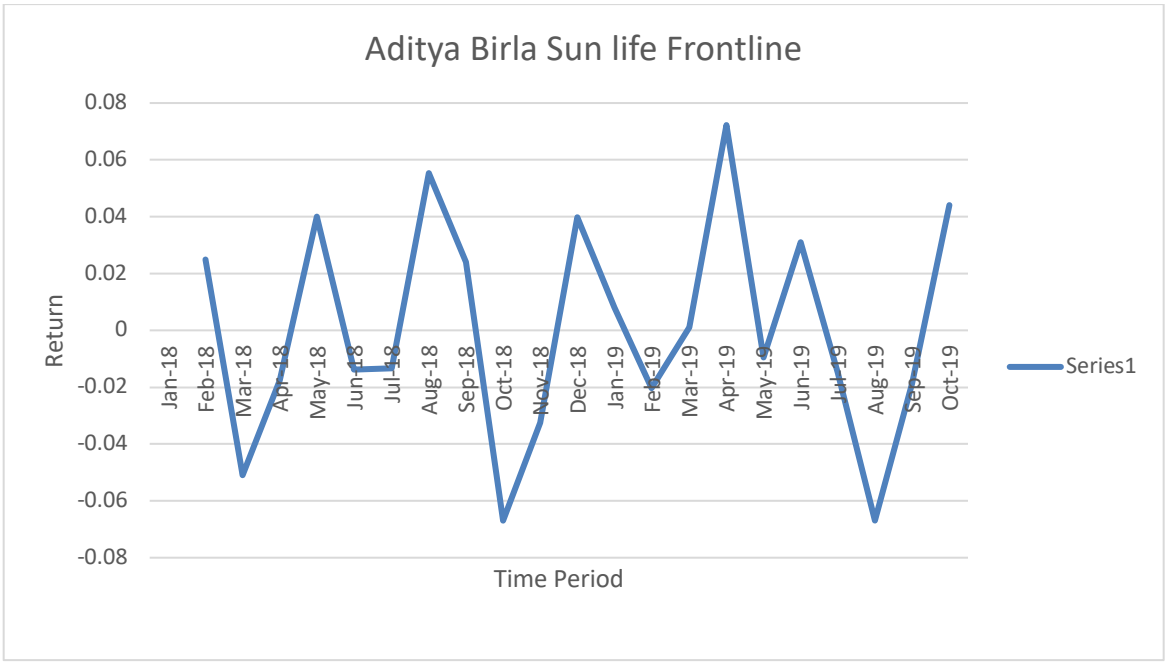
To rank and compare other funds available in the market these three concepts or measures can be used as they apply to all the funds present irrespective of their type. Just rank the funds from highest to lowest on the basis of decreasing values of all the three measures.

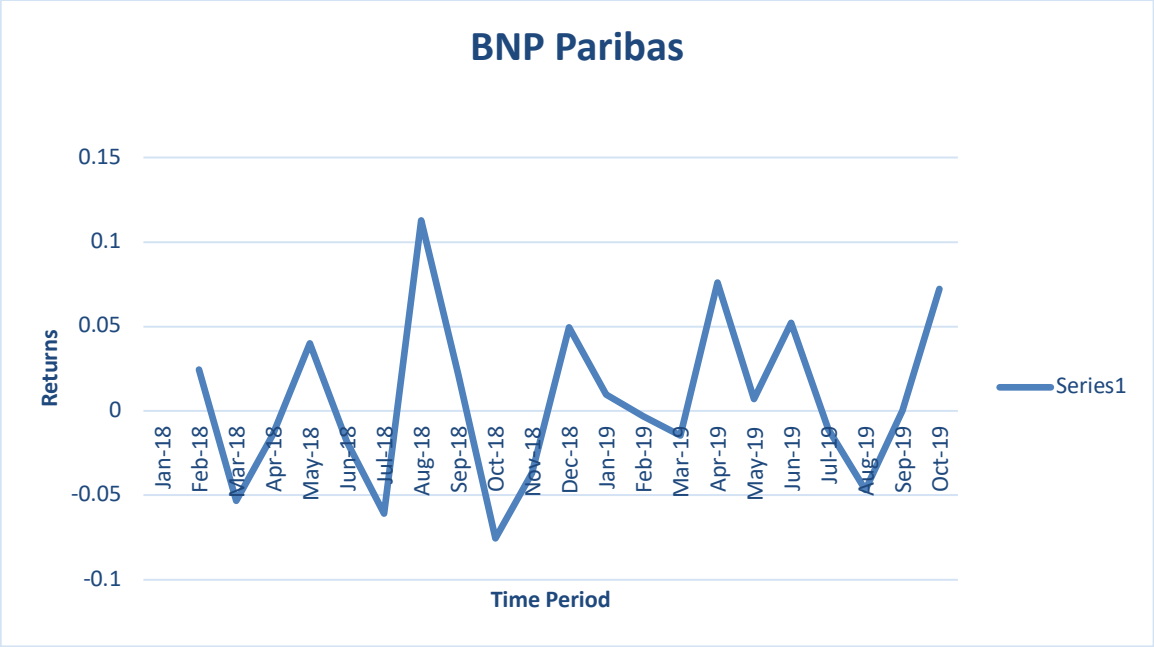
To conclude on the measures we can say that all the three measures used have equal weightage when it comes to comparing the funds and as all three of them gave a reasonably same result.

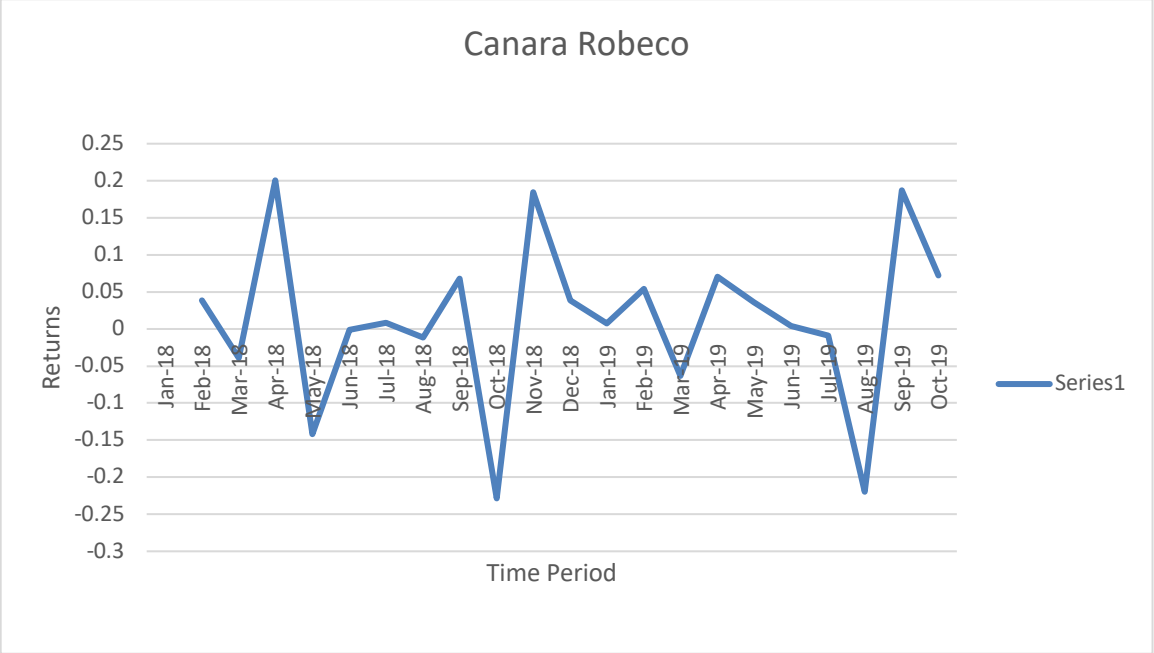
From the study it is seen that **JM Large Cap** fund ranked the highest for each and every measure. Further analysis of JM Large Cap to show investors that how to choose particular fund is as follows:

GRAPHICAL ANALYSIS OF ALL THE FUNDS AND THERE RETURNS






BNP Paribas
0.15
0.1
0.05
0
-0.05
-0.1
Returns
Jan-18
Feb-18
Mar-18
Apr-18
May-18
Jun-18
Jul-18
Aug-18
Sep-18
Oct-18
Nov-18
Dec-18
Jan-19
Feb-19
Mar-19
Apr-19
May-19
Jun-19
Jul-19
Aug-19
Sep-19
Oct-19
Time Period
Series1


Canara Robeco
0.25
0.2
0.15
0.1
0.05
0
-0.05
-0.1
-0.15
-0.2
-0.25
-0.3
Returns
Jan-18
Feb-18
Mar-18
Apr-18
May-18
Jun-18
Jul-18
Aug-18
Sep-18
Oct-18
Nov-18
Dec-18
Jan-19
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May-19
Jun-19
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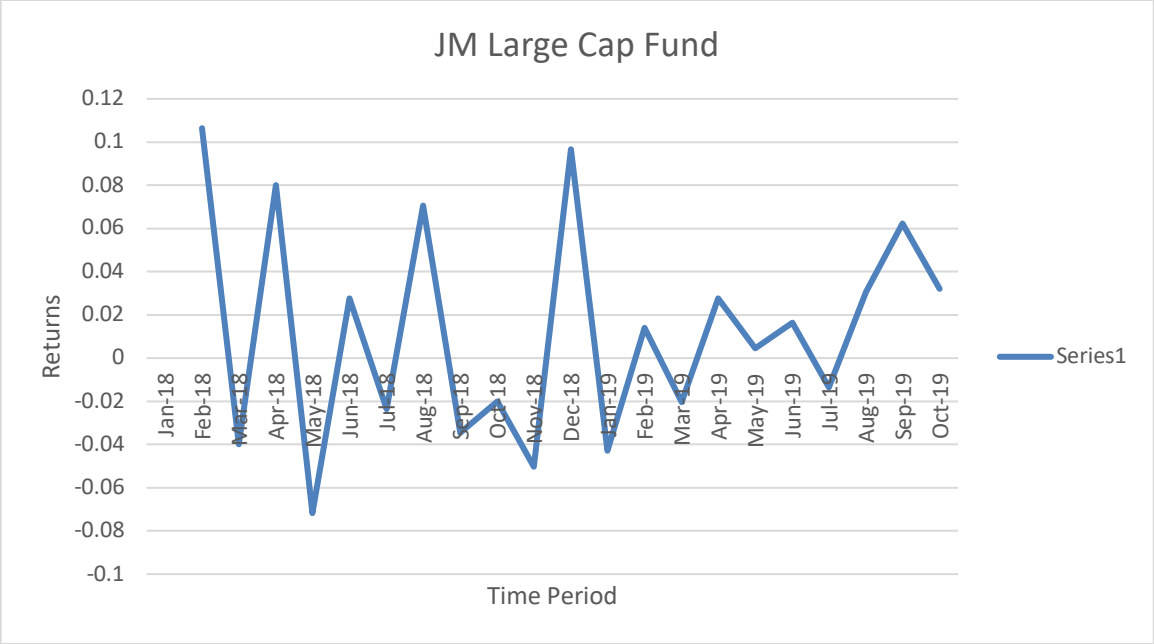
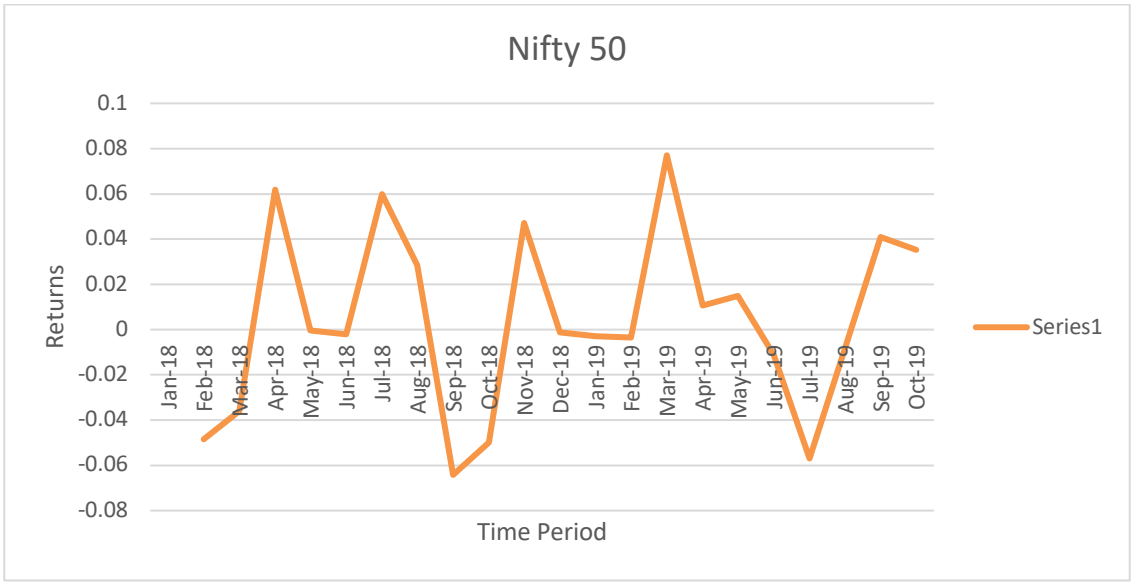
Aug-19
Sep-19
Oct-19
Time Period
Series1



Graph of the Index Return



From the graphs above we can see that the least number of negative outcomes have been recorded by the JM Large cap fund and it also moves in correlation with the Nifty 50 Index.

SUGGESTIONS

♦ If we talk about risk, JM large cap fund is almost in the middle amongst these five funds so we can say that it isn't the least risky fund, so for the investor who have a risk appetite (not very high) can easily go for this fund because the extra return over the risk assumed is highest in this.

♦ If you want to go for a less riskier asset and return is not that important for you then best fund to invest in would be the "**Axis Blue Chip Fund"** as according to all the ratios it provides a good amount of extra return for less risk than JM Large Cap fund.

♦ It is highly recommended by this study that the investors shouldn't go for the Aditya Birla Fund because the return is too low than the Risk-Free assets and the risk is present. So there is no point to go for this, If you want to invest then the investor should chose a government long term T-bill as there won't be any risk and the return is also higher.

CONCLUSION

The asset base rose to Rs 23 Lakh crore in 2019. The mutual fund industry as we have seen has been through testing phase in its evolution. It has seen a sudden mushrooming of several asset management companies soon after the opening up of the industry for private players, the debacle of UTI, and its low recovery and the optimism of the new generation fund managers who believe that they can indeed beat the market and diversify away the risk very efficiently. Investors today have to bear outrageous plans of various AMC's that they have magic portfolio, which can give tailor made returns than risks.

In this study an attempt was made to look into the logic behind the claims that these AMC's boldly make theoretically with a broad prospective. Broadly various concepts like the risk-return relationship and various performance evaluation methods were floated with an intention to facilitate even an ordinary investor with elementary knowledge of statistics to understand them. Based on the inferences from the analytical study of the performance of the fund some suggestions were made to the investor. The future of the mutual fund industry in India is very bright and is going to be very preferred investment options for an investor in the coming future. It looks to take over the other avenues of investment available to the investor due to its high returns and professional management, which is lowering the risk.

Mutual funds is subject to market risk, despite of that it have low risk than stock market. This is proved in performance evaluation section of this report. Performance evaluation measurement ratios i.e. Treynor's, Sharpe's and Jensen's are used by fund managers to take decision of investment and to diversify portfolio.

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